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ABSTRACT

The Council on School Performance Standards, appointed in February of 1989 by the Governor of Kentucky, was charged with finding out what students in Kentucky should know and be able to do, and with determining the best ways to assess student learning. The Council met with six groups: community leaders; employers; parents; school administrators; teachers; and students. Information from the group interviews was used in a telephone survey concerning what should be expected of a Kentucky high school graduate. Results from the survey of 637 state residents selected at random and 201 opinion leaders in the state indicated that Kentuckians expect a high school graduate to be prepared for real life situations, and to have an excellent command of communications and mathematics skills. Four task forces composed of teachers, administrators, Department of Education personnel, and college professors made recommendations for preparing students for the future. A fifth task force addressed issues of evaluation. The work of these task forces is summarized in four recommendations, namely, that the State of Kentucky should: (1) adopt a new Common Core of Learning (CCL), with an emphasis on the application of basic skills/knowledge and on student performance; (2) assess student performance beyond paper and pencil tests; (3) encourage local efforts toward achieving the goals of the CCL; and (4) initiate two development efforts in support of the new CCL. Six tables and one figure are provided. The appendices comprise the greater part of the document. Appendix A contains the executive orders by Governor W. G. Wilkinson (1989) establishing the CSPS and its mandate for the study of Kentucky schools. Appendix B presents a report called "Expectations of High School Graduates" from the Survey Research

Center of the University of Kentucky assessing what knowledge, skills, and values are expected of high school graduates. This information was obtained through telephone surveys of 637 citizens. Six tables present the survey data. Appendix C provides more specific data about the telephone survey with 25 pages of responses to specific items. Appendix D contains the reports of task forces charged with determining the ways in which elementary, middle, high, and vocational schools meet the responsibilities of preparing high school graduates with the abilities expected by the people of Kentucky. Appendix E includes the report of the Assessment Task Force, which was asked to propose an assessment system that would drive instruction in a way that increases the probability that the outline delineated by the other task forces will be achieved by individual students. (SLD)

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Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should be Assessed

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The Report of The Council on School Performance Standards

Volume I
Executive Summary, Recommendations, and Technical Report

September 1989

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Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should be Assessed

The Report of The Council on School Performance Standards

Volume I
Executive Summary, Recommendations, and Technical Report

Presented to:

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Preface

This report is the product of a six-month intensive effort of dedicated people who want a better education for Kentucky's youth. The effort was initiated by Governor Wilkinson in February when by Executive Order he created The Council on School Performance Standards and charged it with two very important tasks: finding out what Kentucky students should know and be able to do and determining the best ways to assess student learning. Twelve very committed and experienced Council members responded to the Governor's call for action and have guided the work that has resulted in this report: five were educators by profession, two were business executives, and three were State Board of Education members. The Superintendent of Public Instruction and the Secretary of the Education and Humanities Cabinet served as ex-officio members. More than 30 of Kentucky's best teachers, school administrators, counselors, curriculum specialists, university professors, and Department of Education personnel gave generously of their time and expertise to serve as task force members who advised the Council. More than 900 Kentucky residents either responded to a 22-minute telephone interview or talked with Council staff in focused group interviews about their expectations of a high school graduate of the future.

With support from the Governor's Office, the Council was able to engage staff, expert consultants, and the services of the Survey Research Center of the University of Kentucky to assist the Council in its work. Based on the input of Kentucky residents, the advice of Kentucky educators, and the suggestions of national consultants, the Council, with the help from its staff, is pleased to present very forward looking recommendations for the future of education in Kentucky.

This report provides a blueprint for a new Common Core of Learning stressing the application of knowledge rather than just accumulating knowledge, ways to measure learning to make sure the new learning objectives are being attained, and curriculum reform that will guide the student toward these objectives. It describes the key ideas, important next steps, and some examples. Additional time; resources; and the joint involvement of school staff, the community, business, and industry will be needed to provide the details and ownership for a workable Kentucky education plan.

As Chairman, I am very proud to present the contents of this report to Governor Wilkinson, The Kentucky General Assembly, the State Board for Elementary and Secondary Education, and the Superintendent of Public Instruction. I am pleased with what the Council has been able to accomplish in a very short amount of time, and I hope the contents of this report will be given serious consideration by the Task Force on Education Reform. It is the hope of the Council that its recommendations will make a significant contribution to Kentucky's quest to provide efficient schools and quality educational opportunities for its youth.

On behalf of the Council, I would like to thank all those who helped to develop the ideas and recommendations in this report: the people of Kentucky who told us what they thought a graduate of the future should look like, the staff of the Survey Research Center at the University of Kentucky who helped us with the statewide survey, and the members of the five task forces who advised us on what Kentucky students should know and be able to do and how learning should be assessed.

Last, but not least, I would like to thank Western Kentucky University for providing the staff support for this project and loaning Dr. Roger S. Pankratz, Associate Dean in the College of Education and Behavioral Sciences, to be the Executive Director of the Council. On behalf of the Council, I want to express my sincere appreciation to Dr. Pankratz, Mr. Harry E. Owen, and Ms. Cathy Lewis for the many long hours they have given to the Council over the past six months managing the work of the task forces, keeping Council members informed, and developing reports for the Council.

J. D. Nichols, Chairman

Table of Contents

Volume I

EXECUTIVE SUMMARY AND RECOMMENDATIONS

The Council's Charge and Work Plan........ 1
The Statewide Survey........ 1
The Work of Task Forces........ 2
The Council's Report and Recommendations........ 2

TECHNICAL REPORT

PART I: Introduction........ 7

PART II: What Kentuckians Expect of A High School Graduate........ 10
  The Statewide Survey of Kentucky Residents........ 10
  Summary and Analysis of the Statewide Telephone Data........ 13
  The Image of the Graduate Most Kentuckians Want as a Product of Our Schools........ 15

PART III: A New Common Core of Learning to Prepare Kentucky's Youth for the Next Century........ 19
  The Work of the Task Forces........ 19
  Performance Goals for Kentucky's Graduate of the Future........ 20
  The New Common Core of Learning Described: What Is Included, How Learning Can Be Assessed, Why It Is Important, and How It Is Different From Present Practice........ 21

PART IV: Outcomes for the Common Core of Learning........ 32

PART V: A Statewide Plan to Assess the Common Core of Learning........ 47
  The Need for a Better Way to Assess What Students are Learning........ 47
  Assessment Statewide and Assessment at the Local School........ 49
  The Key Features of the Statewide School Assessment Plan........ 51

PART VI: New Roles, Structures, and Processes for Implementing A Performance-Driven Curriculum 56
New Roles for School Staff 56
New Organizational Structures and Instructional Processes 57
New Training for Teachers and Administrators 62

PART VII: A Program for Implementing a Statewide School Assessment Plan and Program for Providing Support for Curriculum Development 64
The Need for Two Development Programs 64
A Program for the Development and Operation of a Statewide School Assessment Plan 65
Year One Start-Up Activities 66
Ongoing Assessment Activities 66
A Proposed Time Schedule for the Development of Assessments for the Common Core 67
A Program for Developing a Statewide Support System for Curriculum Reform 67
Incentives, Flexibility, and Structure in Implementing Curriculum Reform 70

PART VIII: How the Six Goals of the Common Core of Learning Address the Seven Capacities Listed by the Supreme Court Ruling as Required for an Efficient School 74

Volume II

APPENDICES

Appendix A: Executive Orders

Appendix B: Expectations of High School Graduates, A Report Prepared by the Survey Research Center, University of Kentucky

Appendix C: Special Report: Summary of Telephone Survey Data

Appendix D: School Task Force Reports

- D1: Elementary School Task Force Report
- D2: Middle School Task Force Report
- D3: High School Task Force Report
- D4: Vocational School Task Force Report

Appendix E: Assessment Task Force Report

List of Figures and Tables

Figure 1	The Relationship of Basic Communication and Math Skills, Core Concepts and Principles, and the Integration of Knowledge K-12	24
Table 1	Emphasis of the Six Learning Goals at Three School Levels	23
Table 2	Subject Matter Fields of Study	25
Table 3	The New Common Core of Learning for Students Through Grade 12	26/31
Table 4	Examples of Connecting and Integrating Knowledge	45
Table 5	Proposed Six-Year Time Schedule for Developing, Pilot Testing, and Implementing Assessments Statewide for the New Common Core of Learning	68
Table 6	Proposed Schedule for Schools Planning, Adopting, and Implementing Curricula Related to the Six Goals of the Common Core	72

Executive Summary and Recommendations

The Council's Charge and Work Plan

In February 1989, Governor Wallace Wilkinson by Executive Order created a 12-member Council on School Performance Standards and charged it with two important tasks: (1) determine what students in Kentucky should know and be able to do and (2) determine how to assess what they should know and be able to do.

After receiving their charge, the 12-member Council immediately established four subtasks.

1. Find out what Kentuckians believe should be expected of a high school graduate in the year 2001
2. Commission elementary school, middle school, high school, and vocational school task forces made up of professionals to recommend a common core of learning objectives for Kentucky students based on a statewide survey, national trends, expert advice, and professional judgment
3. Commission a task force on assessment to propose a forward-looking statewide plan to assess the proposed common core of learning objectives
4. Review task force reports, seek expert advice, and make recommendations to the Governor, the General Assembly, the State Board for Elementary and Secondary Education, and the Superintendent of Public Instruction.

The Statewide Survey

The Council's staff began their inquiry into what Kentuckians expect of a high school graduate by traveling to different locations throughout the state and meeting with six groups consisting of community leaders, employers of graduates, parents, school administrators, teachers, and students. The information from the six group interviews was used to develop a 22-minute telephone survey of more than 100 questions about what should be expected of a Kentucky high school graduate. The Survey Research Center of the University of Kentucky surveyed 637 Kentucky residents selected at random throughout the state and 201 opinion leaders from business, industry, the community, and education.

Results from the statewide survey indicated that Kentuckians expect a high school graduate to be prepared for real-life situations they will face. First, they expect graduates to be able to perform tasks that require an excellent command of basic communication and math skills. Second, Kentuckians, in general, place a higher priority on the ability of students to apply their knowledge and skills (i.e., the ability to solve problems, interact with people, obtain and maintain employment, manage personal and household finances) than on learning objectives which require students to accumulate facts in science, history, language, geography, etc. Respondents seemed to value what the knowledge and skills in these subject areas contribute to becoming a self-sufficient individual and a productive responsible family member, worker, and citizen. In the survey, Kentuckians identified eight basic values they believed were extremely important for graduates to have by the time they finish grade 12. Except for "education and life-long learning," the home and not the school was identified as having the primary responsibility for instilling important basic values. However, Kentucky residents feel schools should support and reinforce other important basic values such as honesty, responsibility, self-esteem, and respect for authority.

The Work of Task Forces

Four task forces composed of teachers, school administrators, State Department of Education personnel, and college professors were commissioned to recommend what Kentucky students should know and be able to do by the end of elementary, middle, high, and vocational school. The task forces considered the results of the telephone survey data, reviewed professional literature, and consulted professional organizations in education and subject matter fields to guide their work.

Working somewhat independently, each of the four task forces agreed on the importance of major themes that should receive priority if Kentucky schools were to fulfill their obligation to prepare students for the year 2001 and beyond. These were (a) basic communication and math skills, (b) core concepts and principles basic to understanding our culture and environment, (c) personal life skills that build toward self-sufficiency, (d) social life skills that build toward becoming a responsible productive group member, (e) thinking and problem-solving skills, and (f) life-long learning skills that help students link new knowledge with what they have already learned. All four task forces produced reports describing key learning objectives for students at each school level and the learning environments essential for students to achieve these objectives.

A fifth task force composed of assessment experts, administrators, teachers, counselors, and Department of Education personnel was commissioned to address the problem of how to evaluate student learning related to the major themes identified by the four school task forces. The assessment task force employed the expert services of three national consultants to assist them in their work. Based on Kentucky's assessment needs described by the school task forces, expert opinion, and their own professional judgment, the assessment task force produced a report for the Council. In this report the assessment task force described possible innovative assessment methods that go beyond paper and pencil tests and suggested a long-range program for the development of new assessment measures.

The Council's Report and Recommendations

The Council on School Performance Standards received the reports from the five task forces and with the assistance of Council staff developed its own report based on the key ideas introduced by the five task forces and the judgment of its 12 members. The main ideas of the Council report are imbedded in four major recommendations.

Over and above these recommendations the Council assumes that a primary goal of all Kentucky schools is to nurture the desire of every student to graduate from high school and to equip him/her with the knowledge and skills to do so.

Recommendation #1 *The State of Kentucky should adopt a new Common Core of Learning for elementary, middle, high, and vocational schools with an emphasis on the application of basic skills/knowledge and on student performance.*

The new Common Core of Learning should have six goals.

Goal #1	Develop student's ability to *use* basic communication and math skills for purposes and situations similar to what he/she will encounter in life
Goal #2	Develop student's ability to *apply* core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, and practical living studies to situations and problems similar to what he/she will encounter in life
Goal #3	Develop student's ability to become a self-sufficient individual
Goal #4	Develop student's ability to become a responsible member of a family, work group, or community
Goal #5	Develop student's ability to think and solve problems both in school situations and in a variety of situations similar to what he/she will encounter in life
Goal #6	Develop student's ability to connect and integrate experiences and new knowledge from all subject matter fields with what he/she already has learned (life-long learning skills)

The above six goals and associated learning objectives are standards for an educated citizen, not minimum competencies. All six goals should be addressed in grades K-12 with different expectations for students at each grade level. They should be developed for all students from those with limited abilities to those with exceptional abilities. The six goals of the Common Core of Learning address the seven capacities described by the recent Supreme Court ruling as essential for an efficient school system.

Recommendation #2 *The State of Kentucky should launch a major effort to assess student performance beyond what can be measured by paper and pencil tests.*

Specifically, the state should

1. establish a Statewide School Assessment Plan, operated by an independent state agency, to ensure local school accountability for student achievement of the six goals of the Common Core of Learning, and

2. establish a statewide support system to help local schools strengthen their ongoing student assessment program and the use of student performance assessment measures in designing instructional programs.

Local schools should continue to operate and strengthen their ***student assessment programs*** for diagnosing learning needs, charting progress, reporting progress to parents, and planning future instruction. In addition, local schools should introduce new assessment measures that address student performance.

The Statewide School Assessment Plan will determine the ***effectiveness of each school*** in helping students achieve the goals of the Common Core of Learning. In addition to serving as an accountability measure for the state, a secondary purpose of the Statewide Plan is to influence instruction in a positive manner through the focus on student performance.

Recommendation #3 *The State of Kentucky should encourage and support innovative efforts by local schools to adopt new professional roles, organizational structures, and institutional strategies that promote student achievement of the six goals of the Common Core of Learning.*

These include

a. new roles for principals as leaders who will involve teachers in decision making and encourage teamwork;

b. new roles for teachers as organizers, leaders, and facilitators of learning experiences and resources;

c. school-based management that encourages professional judgment and accountability for the flexible use of space, time, equipment, and materials;

d. greater involvement of parents, community, business, and industry in planning and implementing local school curricula;

e. greater use of experiences and situations from real life as content for learning;

f. greater use of all forms of technology as tools for learning and the assessment of learning;

g. greater use of student learning teams as a strategy for the development of cooperative and productive group membership;

h. greater use of interdisciplinary teaching teams to plan and deliver instruction;

i. strengthened local student assessment programs that provide current information on each student relative to the six goals of the Common Core of Learning; and

j. school structures and instructional strategies that guarantee success experiences for every student.

Recommendation #4 *The State of Kentucky should initiate two intensive and long-range development efforts that support the new Common Core of Learning.*

Specifically, the State should

1. establish a program to identify and/or develop assessment instruments that measure student performance related to the six goals of the Common Core of Learning, and

2. establish a program to provide incentives and assistance for curriculum reform in local schools related to the six goals of the Common Core of Learning.

A six-year program is proposed for the identification and/or development of assessment instruments that address student performance. Year One should be devoted to obtaining statewide agreement by teachers, curriculum specialists, and subject matter experts on specific learning objectives for each grade level. In years two through six new assessment instruments should be developed and phased in on a three-year cycle of development, pilot testing, and implementation.

Coordinated with the assessment program, a six-year time schedule is proposed for local schools to plan, adopt, and implement curricula that address the six goals of the Common Core of Learning. It is recommended that the development of new curricula be phased in and address two of the six goals each year. Incentive grants are recommended to encourage the development of innovative local curriculum models that have involved local staff, parents, and community in planning. Schools that develop and adopt plans according to the specified schedule and that meet state guidelines have the opportunity to implement their own plan. Schools which fail in their responsibility for planning lose local control and must adopt a state-approved curriculum model under the direction of the Department of Education.

In these recommendations the Council assumes local schools will continue to operate within the structure of local districts and appropriate state agencies.

The technical report published by the Council contains much more detail about the proposed Common Core of Learning, the approach to improving how we measure what children have learned, and a plan for implementing the Council's recommendations. Copies of the technical report can be obtained by writing to:

The Council on School Performance Standards
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Frankfort, KY 40601

Roger S. Pankratz
Executive Director

Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should be Assessed

Technical Report

Part I

Introduction

By Executive Order on February 9, 1989, Governor Wallace Wilkinson created a 12-member Council on School Performance Standards and charged it with two important tasks: (1) to determine what students in Kentucky schools should know and be able to do and (2) to determine how to assess what they should know and be able to do. Specifically, the Council was charged to advise the Governor, the General Assembly, the Superintendent of Public Instruction, and the State Board for Elementary and Secondary Education regarding the following:

> . . .standards for student performance at various stages in a child's educational program which can provide a basis for fairly and accurately assessing the educational progress of every child in the public schools and
>
> appropriate methods of assessing learning, suitable for statewide use, which schools can use to document the extent to which children are acquiring all the knowledge and skills expected of them at specific points in their educational program, given their relative ability to do so . . .

For a complete text of the February 9 Executive Order by Governor Wilkinson, see Appendix A.

After receiving the charge, the Council on School Performance Standards agreed on four major subtasks or objectives:

1. Find out what Kentuckians believe should be expected of a high school graduate in the year 2001;
2. Commission elementary school, middle school, high school, and vocational school task forces consisting of professionals to recommend a common core of learning outcomes for Kentucky students based on a statewide survey, national trends, expert advice, and professional judgment;

3. Commission a task force on assessment to propose a forward-looking statewide plan to assess the proposed common core of learning objectives; and

4. Review task force reports, seek expert advice, and make recommendations to the Governor, the General Assembly, the State Board for Elementary and Secondary Education, and the Superintendent of Public Instruction.

Originally, the work of the Council was intended to provide groundwork for defining standards of student performance, a key element in the Governor's proposed school reform plan. Also, it was hoped that by reevaluating what students should know and be able to do and determining how to assess this knowledge and these skills, the adequacy of Kentucky's present program of studies and testing program could be determined. However, in June a Kentucky Supreme Court ruling declared the current elementary and secondary school system unconstitutional, adding increased significance to the original purpose of the Council.

The Council has addressed curriculum issues described in the Supreme Court ruling; gathered data statewide from Kentucky residents and sought the opinions of educators from Kentucky's public schools and universities, from the Department of Education, and from key constituent groups. Since the Council already has taken these steps, it is hoped that the newly formed Task Force on Education Reform will give serious consideration to the recommendations in this report and the information on which these recommendations are based.

This report of the Council on School Performance Standards and the recommendations that follow provide the foundation for curriculum reform in Kentucky schools. The main ideas represent the collective judgment of the 12 Council members. The Council was advised by its staff, five task forces consisting of more than 35 practicing professional educators from across the state, the more than 900 Kentucky residents who were interviewed, and nationally recognized experts who were contacted or employed by the Council. The members of the Council hope the content of this report, which is the product of nearly six months of very focused and intense effort, will make a significant contribution to Kentucky's quest to provide equitable, efficient, and quality educational opportunities for its youth.

Part II

What Kentuckians Expect of a High School Graduate

The Statewide Survey of Kentucky Residents

The process of determining what students should know, be able to do, and value at various levels of their education was begun by asking the people of Kentucky what they expect of a high school graduate. Using the analogy of building a house, this was like the builder asking the client what the house should look like when it is completed. What purposes should the house serve? What rooms should be included and what should be their relative size? Similarly, the statewide poll asked Kentuckians what the "finished house" (the high school graduate) should know, be able to do, and value.

The Council's staff began their inquiry into what Kentuckians expected of a high school graduate by traveling to different locations throughout the state and conducting interviews with six mixed groups of employers of graduates, parents, school administrators, teachers, and students. Groups were asked to brainstorm what high school students of the future should know, be able to do, and value and which of these should receive highest priority. The information from these group interviews was clustered into 11 possible areas of instruction and used to develop a 22-minute telephone survey which included more than 100 questions.

In the first part of the survey respondents reacted to 45 representative skills a high school graduate might be asked to demonstrate. Typical questions were

What about writing a business letter to a potential employer with correct form, punctuation, and grammar?

What about being able to describe the history of one's own culture in relation to the history of America?

What about being able to imagine different ways to solve a problem?

What about being able to set goals, develop a plan, and work toward those goals?

Respondents' choices to each question were "This skill should be expected of (a) nearly all graduates, (b) 2/3s of the graduates, (c) 1/3 of the graduates, or (d) less than 1/3 of the graduates."

In the second part of the statewide poll respondents were asked to distribute 1000 hours of instruction across ten areas of instruction in an attempt to obtain the relative importance Kentucky residents would give to each. The ten areas were

1. Science, our environment, and the work of scientists
2. Human behavior, self-esteem, relating to others, and becoming a responsible individual
3. Understanding and use of computers and technology
4. Work, employment, and earning a living
5. Basic reading, writing, speaking, and math skills
6. Personal finances, household management, parenting, and family responsibility
7. Learning how to think and solve problems
8. Health and fitness including drug and alcohol education
9. History, literature, the arts, languages, and geography
10. Government, politics, and economics

In the third part of the survey, respondents were asked about 13 key values. In this section of the poll, typical questions about each value included "How important is the value or belief for a high school graduate?" "Who has primary responsibility for teaching the value?" and "To what degree is the school responsible for teaching the values?"

The Council contracted with the Survey Research Center at the University of Kentucky to conduct the statewide survey. The general population sample included 637 individuals who were interviewed by telephone. This sample was selected by using computer-generated, randomly selected telephone numbers of all residential telephones in the state. The people interviewed were of voting age.

In addition, 201 opinion leaders throughout the state selected randomly from nine identified education and civic groups were interviewed using the same telephone survey. These groups were chief executive officers of Kentucky corporations, employment counselors and personnel directors, Chamber of Commerce leaders, school board chairs, school superintendents, PTA chairs, Prichard Committee members, legislators, and college faculty. Twenty-two or 23 persons were interviewed from each group.

In addition to responses about the expectations of high school graduates, the survey asked for demographic data on respondents from both groups including age, marital status, income level, education, number of school-age children in the home, and religious preferences. A complete report of the statewide telephone survey prepared for the Council by the University of Kentucky Survey Research Center is presented in Appendix B.

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Summary and Analysis of the Statewide Telephone Data

The report developed by the researchers at the University of Kentucky Survey Research Center provides a complete analysis of the responses from the 637 Kentucky residents who represent the general population and the 201 opinion leaders. Analysis of responses according to the demographic factors of age, marital status, income level, years of formal education, religious preference, and occupation are included. Appendix C presents a special report of the telephone survey data prepared by the Council staff which shows how the general population and the opinion leaders responded to each of the 45 questions related to skills expected of a high school graduate in 11 instructional areas.

Although the statewide survey has provided data that could be used for many interesting research studies, the Council was most interested in what Kentuckians expected of a high school graduate of the year 2001. Several general observations can be made from the survey data. First, Kentuckians expect high school graduates to be able to perform tasks that require an excellent command of basic communication and computational skills. If one examines the survey items that both the general population and opinion leaders believed should be expected of more than two-thirds of high school graduates, a majority of the survey items require the use of basic skills.

Second, Kentuckians, in general, place a higher priority on outcomes related to the ultimate products of education (i.e., solving problems, getting along with people, obtaining and maintaining employment, managing household finances, parenting) than on the means for achieving these goals (i.e., understanding the fields of science, history, literature, geography). In other words, Kentuckians want graduates to be able to *use* their education to make a difference in real-life situations. They seem to value what knowledge and skills in these subject matter fields contribute to becoming a self-sufficient individual and a productive responsible family member, worker, and citizen.

A third general observation is that Kentuckians tend to value more what they are associated with on a day-to-day basis. For example, employment counselors, personnel directors, and Chamber of Commerce leaders gave more support to skills related to work, employment, and earning a living than to some of the more academic areas of instruction. Members of the Prichard Committee, PTA leaders, and college faculty valued objectives related to literature, history, and the arts more than other groups. The general population placed priority on skills for work and practical living.

In the last major part of the survey, Kentuckians were asked to respond to questions related to 13 values they wanted high school graduates to hold. More than two-thirds of both the general population and opinion leaders felt that eight beliefs or values were "extremely important" for high school graduates to hold. These were

1. Honesty and integrity
2. Personal responsibility
3. Work hard, do a good job
4. Importance of family life
5. Self-esteem
6. Respect for authority
7. Respect for the rights of others and for individual differences
8. Education and life-long learning

While Kentuckians believed that schools should reinforce and support the teaching of these values, the home was assigned the ***primary*** responsibility for teaching values 1-7 on the preceding page. Education and life-long learning constituted the only value on the "extremely important" list assigned to the school as a major responsibility. Two other values judged "important" for graduates to hold were concern for the environment and free enterprise, and the school was given the primary responsibility for their teaching.

In summary, Kentuckians want an education program that prepares graduates to be successful in real-life situations. What respondents perceived as the most important real-life situations for which students should be prepared depended on the values, experiences, and circumstances of the person responding to the survey. The results of the survey also seem to indicate that many Kentuckians may not connect the value of instructional areas like science, technology, and the humanities to the development of practical living and employment skills needed for a successful, productive life.

The Image of the Graduate Most Kentuckians Want as a Product of Our Schools

The data from the statewide telephone survey were shared with the elementary, middle, high, and vocational school task forces commissioned to address what Kentucky students should know and be able to do as they exit each school level. The professional interpretation of the survey data by these groups, coupled with recorded information from the six group interviews across the state, enabled the Council's staff to construct an image of the high school graduate of the year 2001 desired by most Kentuckians. First, ***graduates should be able to demonstrate, use, and apply basic skills and knowledge***. They will be able to read a technical manual or a textbook with understanding and be able to write a coherent business letter or an article for the local newspaper using correct form and punctuation. The graduates will communicate effectively in a job interview; express ideas clearly in a civic, social, or church group; and apply basic math skills for informed consumer buying, household management, or learning new occupational skills. The graduates also will use calculators, computers, and other basic tools of technology to extend their basic skills capacities. They will not appear on the doorstep of college or technical school with serious deficiencies.

Secondly, ***the graduates of the year 2001 and beyond should be self-sufficient individuals***. They will believe in themselves and in their own abilities. They will believe there is little they cannot do if they put their minds to it. They will know how to learn on their own, and they will set goals for their own future. They will be self-disciplined and know how to manage their time. They will know what is acceptable and unacceptable behavior in different situations. They will be flexible and adaptable in new and difficult situations as well as resourceful in making the most out of what they have. The graduates of the future will understand physical and mental wellness and have a healthy lifestyle. They will know what they believe and will make decisions consistent with those beliefs.

Third, ***the desired graduate of the future should have the potential to become a responsible family member, citizen, and worker***. This statement means the graduate will have good interpersonal communication skills and will know how to resolve conflict in a nonviolent manner. They will possess respect for the rights of others and will have an appreciation for ethnic and cultural differences. The future graduates will understand teamwork and will know how to contribute their strengths for the good of the group. They will be responsible and caring and will "pull their weight" in a cooperative effort. They will have the ability to adjust to being leaders or followers depending on the situation. They will not be persons who sit back and let others do it.

Fourth, ***exiting 12th graders should be resourceful problem solvers***. They will know how to think and use their minds well. Whether at home, at work, or in an academic setting, they will know how to identify and formulate problems, identify what they know and do not know, and have ways to find what they need to know. They will be skilled at using information sources, organizing information, and deciding what information applies to the problem at hand. They will be able to generate alternative solutions to problems, test the feasibility of these solutions, and make informed choices concerning the best solution based on available information and logic. Last but not least, they will know how to live with the choices they make as they continue their search for better solutions to problems. Kentuckians do not want workers who sit and wait for the supervisor each time the equipment fails, nor do they want parents who wait for institutions to address family problems or college students who are stymied every time they are assigned a problem that looks different from the examples in the textbook.

Fifth, ***the future graduates desired by Kentuckians should have the capacity to build an expanding base of knowledge from new learning experiences and to connect and integrate this knowledge with what they already know***. In the Information Age, knowledge is power. Experiences and new information must be organized and be linked to previous knowledge. This capacity for life-long learning includes the ability to learn in formal academic settings as well as in informal settings and to learn from failures as well as from successes. The graduates of the year 2001 and beyond will not be persons who file information into neat compartments in their minds but will know how to process new information so it can become an integrated part of their expanding knowledge base.

In summary, the kind of graduates Kentuckians want to see our schools produce are persons who can use their basic skills and knowledge in real-life situations; who are self-sufficient individuals and responsible family members, citizens, and workers; who are resourceful problem solvers; and who possess both the ability and initiative to be life-long learners with an ever expanding base of knowledge. When the seven capacities listed by The Honorable Robert F. Stephens in the recent Supreme Court document are compared to what Kentuckians expect of a high school graduate, there is a great deal of similarity.

Part III

A New Common Core of Learning to Prepare Kentucky's Youth for the Next Century

The Work of Task Forces

Four task forces composed of teachers, school administrators, State Department of Education personnel, and college professors were commissioned to use their best professional judgment to recommend what Kentucky students should know and be able to do to become the desired high school graduates of the future. The task forces were instructed to study the results of the statewide survey; to review professional literature; and to consult professional organizations in subject matter disciplines (e.g., National Council for Teachers of Mathematics, American Association for the Advancement of Science, National Council for the Social Studies, National Council of Teachers of English) to guide their work. Task forces were named for (1) elementary school, (2) middle school, (3) high school, and (4) vocational school. Their reports are presented in Appendix D.

Working somewhat independently, all four task forces agreed on the importance of six major themes that should receive priority if Kentucky schools were to fulfill their obligation to prepare their students for the year 2001 and beyond. These were (a) basic communication and math skills, (b) core concepts and principles basic to understanding our culture and environment, (c) personal life skills that build toward self-sufficiency,

(d) social life skills that build toward becoming a responsible productive group member, (e) thinking and problem-solving skills, and (f) life-long learning skills that help students link new knowledge with what they already have learned and make new connections.

In addition, a statewide assessment task force composed of assessment experts, administrators, teachers, and Department of Education personnel was commissioned to address the problem of how to assess learning related to the six themes identified by the four school task forces. The assessment task force report is presented in Appendix E.

Performance Goals of Kentucky's Graduate of the Future

The Council on School Performance Standards examined the reports from the five task forces. This information provided the basis for six broad performance goals that make up the new Common Core of Learning for all students K-12. These performance goals, along with the learning objectives associated with each goal, represent a significant departure from what Kentucky schools have emphasized during the past five to eight years.

The six goals of the new Common Core of Learning for the Kentucky high school graduate of the future are

Goal #1	Develop student's ability to ***use*** basic communication and math skills for purposes and situations similar to what he/she will encounter in life
Goal #2	Develop student's ability to ***apply*** core concepts and principles basic to the understanding of our culture and environment
Goal #3	Develop student's ability to become a self-sufficient individual
Goal #4	Develop student's ability to become a responsible member of a family, work group, or community

Goal #5	Develop student's ability to think and solve problems both in school situations and in a variety of situations similar to what he/she will encounter in life
Goal #6	Develop a student's ability to connect and integrate experiences and new knowledge from all subject matter fields into his/her own existing knowledge base

Goal #1 continues the statewide emphasis on basic communication and math skills and extends the expectations that students will use and apply these skills. Goals #2 through #6 extend expectations for performance far beyond what is now required in Kentucky schools. The emphasis is on the ***use of skills*** and the ***application of knowledge*** with the intent to assess student performance. This emphasis represents a major shift in education and, if implemented, will result in an even greater change in how teaching and learning take place.

These six goals directly address the seven capacities listed by The Honorable Robert F. Stephens in the Supreme Court document as necessary for an "efficient" school system. A more detailed description of how these six goals relate to the seven capacities is presented in Part VIII of this report.

The New Common Core of Learning Described: What Is Included, How Learning Can Be Assessed, Why It Is Important, and How It Is Different From Present Practice

The effectiveness of the new Common Core of Learning is dependent upon specifying learning outcomes (what students are expected to know and be able to do) at each grade level and on developing ways to assess student performance. Also, the new Common Core of Learning calls for developing assessment measures other than paper and pencil tests. This report provides a blueprint for the Common Core of Learning; it describes the key ideas, specifies the process for developing specific learning outcomes and assessments, and provides some examples. Additional time and resources and practitioner involvement will be required to provide the detail and ownership needed for a complete, workable plan.

The six learning goals and associated learning objectives are standards for an educated citizen, not minimum competencies. All six goals are addressed in grades K-12 with different performance expectations for students at each grade level. The six learning goals are for all students from those with limited abilities to those with exceptional abilities. All students will learn to use basic skills. All students will develop self-sufficiency and the ability to be a productive member of a group. All students can learn to solve problems and become life-long learners. However, the expected level of performance will be different for students with different abilities.

The mental, physical, and emotional growth patterns of students K-12 provide the opportunity for a different emphasis on each of the six goals in elementary, middle, and high school. Table 1 lists the emphasis at the elementary, middle, and high/vocational school levels for each of the six goals. Figure 1 shows how the development of basic skills (Goal #1), concepts and principles (Goal #2), and the integration of knowledge (Goal #6) are related in elementary, middle, and high/vocational schools. The four task force reports presented in Appendix D describe the relationship between the student developmental level and learning capabilities in more detail.

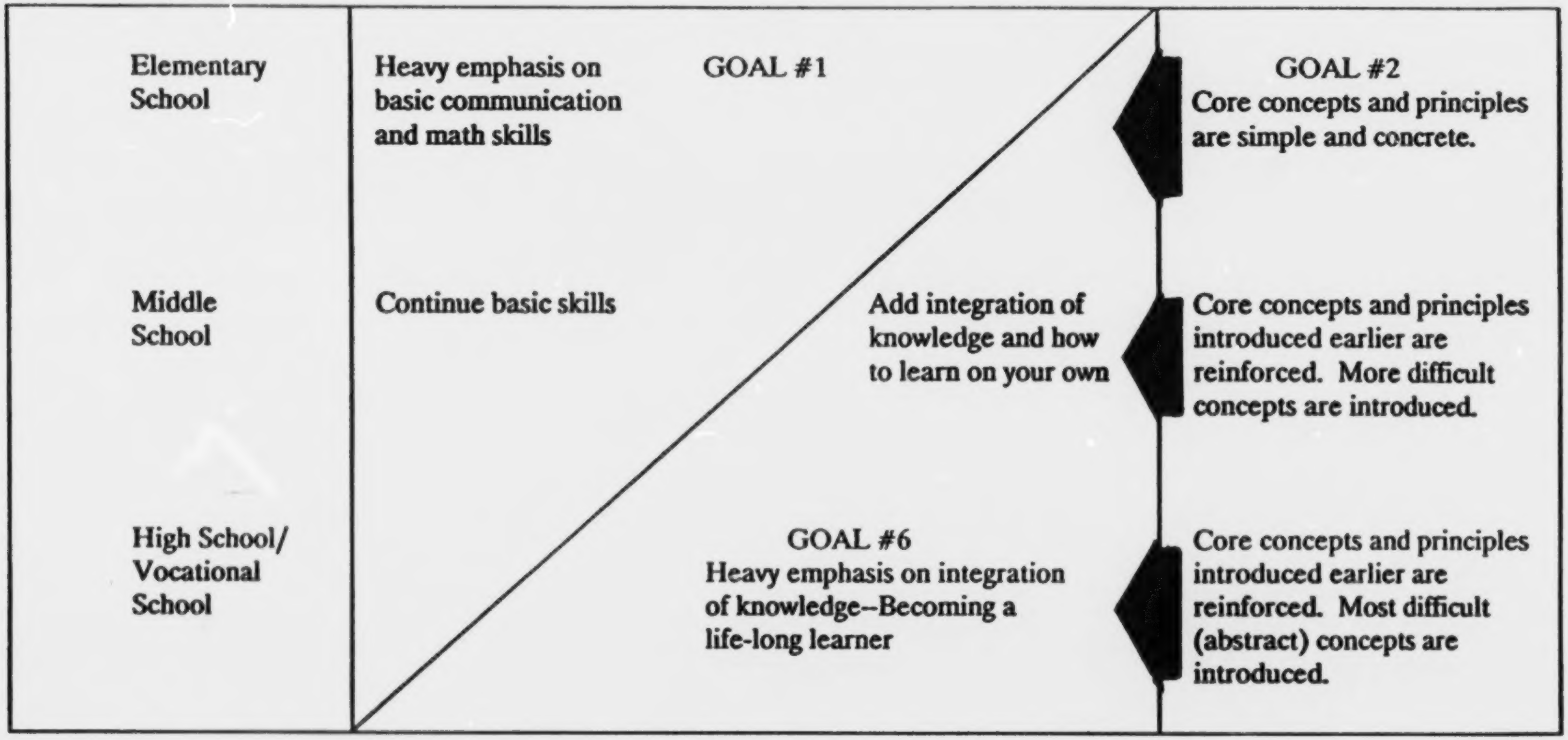
The major concepts in our world culture in Goal #2, problem solving in Goal #5, and integration of new knowledge in Goal #6 use content from all subject matter fields of study. These are the subject areas or disciplines that in the past have been used for

Table 1

Emphasis of the Six Learning Goals at Three School Levels

School Level	Goal #1 Basic Communication and Math Skills	Goal #2 Core Concepts and Principles of our World and Culture	Goal #3 Personal Life Skills	Goal #4 Social Life Skills	Goal #5 Thinking and Problem-Solving Skills	Goal #6 Integration of Knowledge Life-Long Learning
Elementary School	*Heavy emphasis on reading, writing, speaking, and math skills	Simple concrete ideas are introduced.	*Emphasis on early success experiences (self-esteem)	Attention to social skills and group experiences	Begin problem solving	Connections are made between big ideas in math, reading, writing, sciences, and social studies.
Middle School	Continued emphasis on basic skills--more real-world applications	Simple ideas are reinforced. More difficult concepts are introduced.	*Emphasis on development of self-concept and self-confidence	*Emphasis on learning to become a contributing group member	Development of problem-solving and decision-making skills	Development of skills for learning on one's own and connecting new knowledge with what has been learned--Knowledge Integration
High School/ Vocational School	Use of basic skills to develop advanced knowledge	Ideas introduced previously are reinforced. Most difficult (abstract) concepts are introduced.	Development of self-sufficiency	Development of skills and attitudes for responsible group membership (i.e., family, work group, and community)	*Emphasis on becoming a resourceful problem solver in all subject matter fields	*Emphasis on integration of knowledge from all subject matter fields. Preparation for life-long learning

*Goals with a major emphasis



Elementary School	Heavy emphasis on basic communication and math skills GOAL #1		GOAL #2 Core concepts and principles are simple and concrete.
Middle School	Continue basic skills	Add integration of knowledge and how to learn on your own	Core concepts and principles introduced earlier are reinforced. More difficult concepts are introduced.
High School/ Vocational School		GOAL #6 Heavy emphasis on integration of knowledge--Becoming a life-long learner	Core concepts and principles introduced earlier are reinforced. Most difficult (abstract) concepts are introduced.

Figure 1

The Relationship of Basic Communication and Math Skills, Core Concepts and Principles, and the Integration of Knowledge K-12

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courses of study. They have been grouped into five major categories and are listed in Table 2 to define the general term "subject matter fields of study." The subject matter fields listed in each of the five columns are not exhaustive but are representative of studies traditionally associated with each of the five subject matter field categories.

Table 2

Subject Matter Fields of Study

Sciences	Humanities	Social Studies	Practical Living Studies	Vocational Studies
-Physical Science -Technology and Engineering -Biological Science -Human Behavior and Development -Mathematics	-History -Literature -The Fine Arts -Languages and Culture	-Government and Politics -Economics -Geography	-Personal and Household Management -Family Responsibilities -Health, Fitness, and Drug Education -Work and Employment	-Business and Office -Vocational Home Ec. -Auto Mechanics -Building and Trades -Health Occupations -Aeronautics

Table 3 presents the main features of the new Common Core of Learning for each of the six goals: a description of content (column 1), how learning will be assessed (column 2), why the goal is important (column 3), and how the goal and assessment of learning are different from past practice (column 4). Specific learning objectives for each of the six goals are presented in Part IV of this report.

It is the firm position of the Council that all Kentucky students be given equal opportunity and support to achieve the six goals of the Common Core of Learning. Race, ethnic background, or family income should not be factors that limit access to the development of knowledge and behaviors specified by the six goals and associated learning objectives.

Table 3
The New Common Core of Learning for Students Through Grade 12

Goal #1 **Develop student's ability to use basic communication and math skills for purposes and situations similar to what he/she will encounter in life**

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
Basic Skills are: Reading; Writing; Speaking and listening skills Math skills; Computer skills; Processing information skills "...for purposes and situations similar to what they will encounter in life" means an emphasis on the use of basic skills in real-life applications.	Performance assessments allow students to actually demonstrate their ability to read, write, speak, and compute, etc., in life-like situations, (i.e., read a manual or book and explain, write a business letter, compute the actual cost of a loan, locate and organize information on drugs, job opportunities, consumer buying).	Basic skills contain the tools for communication and learning. With these tools the student can interact with persons in his/her immediate environment and with the outside world. Without these tools he/she remains isolated and limited. Benefits of being competent to use basic skills are the ability to communicate; interact with people; learn new things; obtain and maintain employment; gain entrance and be successful in college or technical school; and be a contributing worker, family member, or citizen.	Kentucky presently emphasizes more than 640 basic skills K-12 in five areas: Reading Writing Spelling Mathematics Library Research and Reference Each year Kentucky students are administered the Comprehensive Test of Basic Skills (CTBS), a paper and pencil test. The new Common Core of Learning in Goal #1 calls for assessing the application of basic skills in six areas.

Table 3 (continued)

Goal #2 **Develop student's ability to apply core concepts and principles from mathematics, the sciences, the humanities, the social studies, and practical living studies to situations or problems similar to what he/she will encounter in life**

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
Key concepts and principles are the few very important "core" ideas and relationships in our world and culture that every educated citizen needs to know. Teacher and subject matter experts from organizations such as the American Association for the Advancement of Science, the National Council for Mathematics Teachers, the National Council for Teachers of English, and the American Council on Economic Education have identified a few very important key ideas and principles every student should know, own, and learn to apply. These are essential for practical living and for advanced study. Kentucky teachers and subject matter experts should review recommendations for essential knowledge and adopt a set of key ideas and principles from subject matter fields that work for Kentucky. These would be the few very important ideas and principles students would learn to apply in many different situations. Apply means the student will recognize the use of the core ideas or principles in real-life situations and use them to solve problems or complete tasks.	Achievement tests measure the understanding and application of key ideas and principles. Performance assessment tasks require the student to demonstrate that they can apply knowledge (key ideas and principles) to academic problems and in real-life situations.	Key concepts and principles are the organizers for new knowledge and future learning. They are the basic knowledge units about which students need to think and reason. With these concepts and principles students can analyze and solve problems and expand their knowledge base. Without this essential knowledge (key ideas and principles) future learning experiences are isolated facts or events without meaning. Key ideas and principles are what make up the knowledge foundation base to which students connect new learning experiences. Benefits of being able to apply core ideas and principles are the ability to learn new things on our own, be more successful in school, have more ability to solve problems, and have a better opportunity for employment.	In the past, students have been exposed to many ideas and principles with little guidance about which ones are essential and most important. Identifying a few very important ideas, learning them very well, and then assessing the student's ability to apply these key ideas to different kinds of problems K-12 are very different from past practices. Although some national testing agencies have identified these key ideas and developed test items around them, Kentucky schools have not made these a priority.

Table 3 (continued)

Goal #3 Develop student's ability to become a self-sufficient individual

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
Students should acquire knowledge, develop personal skills, and adopt attitudes that will increase their tendency to act consistently in certain ways. These are called personal attributes. Personal attributes for being a self-sufficient individual are possessing a positive attitude toward self and learning maintaining a healthy physical and mental lifestyle being adaptable and flexible in new situations developing resourcefulness and creativity demonstrating self-control and self-discipline making decisions based on ethical values learning on one's own	Self-report measures allow students to describe their attitudes toward school; school subjects (their ability to learn math, science, history, etc.); and specific work assignments. Simulation activities provide students with situations in which to demonstrate personal attributes like adaptability, resourcefulness, self-discipline, and making decisions based on values. Observation of students in natural settings gives students the opportunity to demonstrate the personal attributes that are related to this goal.	The attributes of self-sufficiency enable students to believe in themselves and in their ability to shape their own future. They will have a tendency to believe they can learn and do almost anything they put their minds to. Maintaining a healthy lifestyle provides a foundation for life-long physical and mental wellness. Being adaptable and flexible coupled with resourcefulness will prepare students for 21st century jobs and roles which are unknown today. Self-discipline and decision making based on ethical values will prepare students for responsible adulthood as parents and productive citizens who will work to improve their world. Without these personal attributes, students remain dependent on others, guided by external forces and are a potential burden to society. Benefits of life skills related to self-sufficiency are the ability to become a self-directed individual in school, at home, and in the community where one controls his/her environment and determines his/her future.	Good teachers and good schools have always advocated these personal attributes. However, Kentucky schools have not attempted to assess these attitudes in the past nor has there been a planned program to systematically develop these attributes. The new Common Core of Learning Goal #3 calls for developing new assessments for personal attributes related to becoming a self-sufficient individual at various grade levels and the design of curriculum materials and experiences that help students develop these attributes.

Table 3 (continued)

Goal #4 **Develop student's ability to become a responsible member of a family, work group, or community**

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
Students should acquire knowledge, develop skills, and adopt attitudes that will increase their tendency to act consistently as a responsible team member. Opportunities to be a team member exist in the home, in the school, on the job, and in the community. The knowledge, skills, and attitudes that contribute most to becoming a responsible team member are called social attributes and include developing interpersonal skills developing productive team member skills displaying responsiveness and caring recognizing rights and responsibilities maintaining a multicultural or world view maintaining an open mind to alternative perspectives	Self-report measures indicate attitudes toward family, work groups, or community responsibilities; attitudes toward authority figures; and attitudes toward other ethnic groups, etc. Simulation activities require students to demonstrate their ability to cooperate and contribute to a group effort. Observation of students in a natural setting provides students with the opportunity to interact with peers, interact with persons from other ethnic groups, or demonstrate their ability to be a contributing group member.	Success in life as a family member, a worker, or a citizen requires persons to become a social being with the ability to interact productively and work toward common goals. Our society places a high value on team efforts: family, athletic teams, business teams, community groups, etc. Learning to be a responsible member of a group prepares students for family life and parenthood and develops the student's potential for obtaining and maintaining employment, contributing as a member of a community group, and fulfilling civic responsibiliites. Benefits of social life skills include the ability to be a successful family member, work group, or citizen. The ability to interact socially and be a productive team member affords social status and employment opportunities not available to the socially inept. Without the social attributes associated with this goal, the student becomes a higher risk for future marital and family problems, interpersonal relations problems at work, and difficulty understanding his/her obligations and responsibilities to society.	Although good teachers and good schools have helped students develop interpersonal and team skills, they have not been a priority statewide nor has any attempt been made to assess these social attributes. The new Common Core of Learning Goal #4 places a priority on developing the student's capacity to become a responsible group member and calls for the development of valid and reliable assessments to measure progress toward attainment of social attributes.

Table 3 (continued)

Goal #5 **Develop student's ability to think and solve problems both in school situations and in a variety of situations similar to what he/she will encounter in life**

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
A problem is an unusual question, an unsettled circumstance, or any situation that requires a solution. Problems come in all shapes and sizes, are encountered in all subjects and fields, and occur everywhere in life. Although every problem is different, there are certain basic skills and ways of thinking that can be developed in students to make them more proficient at critical thinking and problem solving. These include identifying and formulating problems, identifying what is known and unknown about the problem, locating and organizing information, developing alternative solutions, making informed decisions, and evaluating solutions.	Tests measure skills related to problem solving (e.g., critical thinking, analytical reasoning). Performance assessments provide students with real-life problems to solve either individually or in a group setting. Assessments present simulated problem situations that students are required to solve individually or in a group. Observation of students in a natural setting allows students the opportunity to demonstrate their problem-solving abilities.	The process of solving problems contains the most universal set of thinking skills and information processing skills a student will need to be successful in life. Problem-solving skills are needed to apply basic skills; pursue advanced study in most subject matter fields; function in personal, family, and community life; and to be competitive in business or in the work force. Also, problem-solving and thinking skills are given a high priority for schools in the future by leading learned societies like the American Association for the Advancement of Science, the National Council for Teachers of Mathematics, and the National Science Foundation. Benefits of problem-solving abilities include success in school, in the work place, and in personal life. Problem solving contains a universal set of skills that either provides opportunities or limits one's ability to advance in life. Without these skills students will be severely limited in how far they can advance in their education, the opportunities they will have for employment, and their ability to solve personal and family problems.	Problem solving is talked about and given considerable attention in textbooks and professional literature. However, research shows teachers spend a very small proportion of their teaching time (less than 5 percent) teaching these skills. Kentucky has no tests for assessing how well students use their basic skills and knowledge to solve problems or think analytically. The new Common Core of Learning Goal #5 calls for designing a new set of assessments for determining student progress in developing problem-solving skills from elementary school through grade 12.

Table 3 (continued)

Goal #6 **Develop student's ability to connect and integrate experiences and new knowledge from all subject matter fields into his/her own existing knowledge base**

What We Really Mean	How Learning Will Be Assessed	Why This Learning Is Important	How This Learning Is Different From Past Practice
Students should develop a process that will enable them to make connections between their subject matter courses and their everyday experiences that they can use throughout life. This interaction is especially needed in subject matter courses like chemistry, biology, history, government, music, or vocational courses where teachers and students learn from the point of view of a single subject matter field. Teachers and students should link new knowledge they have learned earlier with knowledge from other subject matter fields. When studying any new knowledge from subject matter fields, students should be able to answer the following types of questions: 1. What historical connections does this knowledge have with people, places, and events? 2. What connection does this knowledge have with basic skills and knowledge I have previously learned? 3. What are the applications of this knowledge in the real world? 4. What are the methods for advancing and developing this knowledge? 5. How has this unit of knowledge benefited and/or harmed society? 6. What is the personal meaning of this knowledge? 7. What are the connections of this knowledge with other subject matter fields?	Performance assessment allows students to be presented with new knowledge (i.e., an article describing a new development in the automobile industry, a video tape describing a new discovery in medicine, a collection of artifacts from an Indian burial ground in Kentucky). Then students individually or in a group study the new knowledge and make connections and linkages with previously learned knowledge and knowledge in other fields (e.g., the student will respond to one or more of the seven questions listed in the column to the left).	Students who connect and integrate new knowledge with knowledge they have learned previously and knowledge learned in other subject matter will remember it longer and can use it in more powerful ways in applications to real-life situations. They also can use the knowledge more effectively to solve problems. Current research supports these points. While it is important to be able to organize and classify knowledge and to identify main ideas, principles, and rules, it is important also to link knowledge so students can see connections and uses for knowledge in their world. Information and experiences in real life do not come to us in compartments of physical science, mathematics, civics, etc., rather they come to us with relationships to many different subject matter fields. If students are to understand, appreciate, and use new knowledge, they need to see many connections to different subject matter fields. Benefits of independent learning and integrating knowledge are the ability to (1) train for new jobs of the future; (2) be a life-long learner with a growing knowledge base; (3) be a better problem solver, learn from life's successes and failures; and (5) become a broadly educated person.	Most subject matter content is presently taught and learned in isolated units: mathematics, science, social studies, economics, literature, English, etc. The new Common Core of Learning Goal #6 calls for studying topics in traditional subject matter fields from various points of view. For example, advances in science and technology have direct social, political, economic, and health impacts on society. These connections need to be made. Information is fast replacing energy as America's primary source of power. For students to make the appropriate connections, teachers of science, social science, and other areas will need to collaborate to design a more integrated curriculum. Courses like physics, geometry, American history, algebra, and foreign languages can no longer be taught in isolation.

Part IV

Outcomes for The Common Core of Learning

Goal #1: Communication and Math Skills

All educated citizens must have basic tools for communicating, processing information, and life-long learning if they are to develop their own abilities to the fullest degree. The six skills addressed below and applied in many different ways provide a foundation for learning in all subject matter fields.

Reading

-- Reads both for pleasure and for information

-- Sets a purpose for reading and adjusts reading speed and method (survey, skim, review, master) depending on the type of material and purpose for reading

-- Recognizes different purposes and styles of writing, identifies the writer's purpose, and interprets both literal and inferred meanings

-- Understands the most important information in the text of a newspaper, magazine, technical report, or narrative and summarizes the main ideas in own words

-- Reads critically by separating fact from opinion, recognizes propaganda, recognizes stereotypes and statements of bias, recognizes inconsistencies, and judges the validity of evidence

-- Defines unfamiliar words by decoding, using contextual clues, and using the dictionary or thesaurus

-- Applies specific strategies to assist with problems of comprehension in reading

Writing

- Uses a process of planning, drafting, and revising to develop coherent written documents that communicate ideas to intended audiences

- Selects, organizes, and relates ideas in coherent paragraphs

- Uses Standard English sentences with correct structure, form, punctuation, and spelling

- Modifies writing style (i.e., vocabulary and sentence structure) for different readers and different purposes

- Gathers information from primary and secondary sources, uses quotes, paraphrases material, and summarizes to write a technical or research report

- Writes to express creative ideas in letters, poetry, short stories, and essays

- Writes for the purposes of persuasion, explanation, and description in business letters, articles for newspapers, general reports, and essays

Speaking and Listening

- Engages in the constructive spoken exchange of ideas in class discussions with peers and instructors

- Follows spoken instructions and asks questions coherently and concisely

- Understands the main ideas of speeches, lectures, or media presentations and summarizes them accurately in his/her own words

- Listens critically to oral or media presentations and separates fact from opinion, recognizes stereotypes and statements of bias, recognizes propaganda, and judges the validity of evidence

- Prepares and delivers oral presentations to different audiences that
    - communicate intended ideas clearly and coherently
    - make use of Standard English, and
    - achieve the intended purpose (i.e. information, persuasion, explanation, creative expression)

- Communicates effectively in one-on-one dialogue for different purposes (i.e., giving directions dealing with customers or clients, interacting with supervisors or peers in a work situation)

Math Skills

- -- Adds, subtracts, multiplies, and divides using whole numbers, decimals, fractions, and integers
- -- Performs measurement of length, area, volume, weight, temperature, and time in traditional units and in metric units
- -- Uses ratios, proportions, percents, powers, and roots
- -- Uses spatial relationships and basic concepts of geometry
- -- Makes estimates and approximations and judges the reasonableness of results
- -- Understands and uses concepts of probability and statistics
- -- Organizes data into tables, charts, and graphs and interprets data presented in these forms
- -- Translates verbal symbols into mathematical terms to formulate and solve problems
- -- Uses a calculator to perform calculations and solve math-related problems

Computer Skills

- -- Uses keyboarding skills to input data/information into a computer
- -- Uses computer to operate instructional programs
- -- Uses a computer to operate standard utility software programs such as word processing, spread sheets, and statistical packages

Information Processing Skills

- -- Uses the features of books and other reference materials such as table of contents, preface, introduction, titles, subtitles, index, glossary, appendix, and bibliography
- -- Uses standard library reference skills to locate and retrieve information
- -- Uses a computer to access information sources and data bases
- -- Extracts, organizes, and summarizes pertinent information from data sources for school learning experiences and for practical living needs--employment options, health information, consumer information, etc.

Goal #2: Core Concepts and Principles

> *Let the main ideas which are introduced into a child's education be few and important and let them be thrown into every combination possible. The child should make them his own and should understand their application. 1929, Alfred North Whitehead,* The Aims of Education.

The advice of philosopher and mathematician Alfred North Whitehead is as sound today as it was 60 years ago when he wrote it. The problem is that educators have not heeded this sage advice. Education is the process of organizing knowledge so it can be retrieved and used in new and inventive ways. Students need organizers or hooks to attach the knowledge to which they are exposed in school and in real-life experiences. These organizers are the core concepts and most important principles students must learn in order to understand our world and our culture. For example, free enterprise is not an ordinary word. It stands for an idea or concept that has helped to make our nation the wealthiest in the world. A lot of what is experienced every day can be "hooked" to this word because it is a ***core idea***. Also, as an example, the phrase "rewarding a person's behavior increases the likelihood that the behavior will be repeated" is not an ordinary principle or relationship. It is a principle which is seen in operation every day and which helps to explain the actions of children and adults. Because it explains so much of our world, it should be classified as a core principle that all students should learn. In every academic field there are a few very important core concepts and principles.

National organizations such as the American Association for the Advancement of Science, the National Council of Mathematics Teachers, the American Council on Economic Education, and the National Council for the Social Studies have identified these core concepts and principles through the work of national committees. The

Council proposes statewide task forces of teachers, curriculum specialists, and subject matter experts from all major subject matter fields be formed and charged to consider the work of these national organizations and identify the set of core concepts and principles which are desirable for Kentucky.

These relatively few but very important concepts and principles would be considered essential knowledge for the graduate. Students need to learn these core concepts and expect to apply them to a variety of real-life situations and problems. These core concepts should become the organizers for connecting and integrating knowledge in Goal #6. The simpler and more concrete concepts and principles would be introduced in elementary school; the more abstract core concepts and principles should be introduced in middle or high school. Once introduced, core concepts and principles would be reviewed, reinforced, and their meaning strengthened as students progress.

The trend by national organizations and learned societies is to emphasize the identification and interrelationships of core concepts and principles. This trend is based on the philosophy that students need organizers for knowledge in an information age and that it is better to learn a few core concepts and principles well than simply to be exposed to a large volume of facts and experiences. Theodore Sizer of Brown University calls this philosophy one in which "less is really more."

Student expectations with respect to each concept or principle identified for Kentucky's core of essential knowledge would be to

1. recognize the use or application of the concept or principle in a variety of real-life situations,
2. link the concept or principle to key concepts in different subject matter fields, and

3. use the concept or principle to solve problems that have real-life applications.

The following are examples of ideas or concepts that could be considered for the core of knowledge in each of the four subject matter categories. It should be remembered that these are only examples and are not exhaustive lists.

Examples of Core Ideas or Concepts

Science

- Structure and function in organisms
- Evolution
- Interdependence of living things
- Change: cycles and trends
- Stability and equilibrium in the universe
- Conservation of energy, matter, electrical charge, heat, momentum
- All technologies have side effects
- Symbolic representations and transformations
- Uncertainty and probability
- Equivalence

Social Studies

- Structure and function of political institutions
- Rights and responsibilities in rule of law
- Federalism
- Democracy and other "isms"
- Equality of opportunity
- Geographic determinism
- Economic systems
- Norms and mores
- Competition and market structure
- Acculturation

The Humanities

- Culture
- Relationship of environment to human activity
- Location, place, and region
- Artistic style
- Creative expression
- Structure(music, art, literature)
- Choreography
- Music element (pitch, rhythm, timber, dynamics)
- Characterization

Practical Living Studies

- Nutrition
- Wellness
- Substance abuse
- Housing
- Emotional stress
- Consumerism
- Parenthood
- Marriage: rights and responsibilities
- Work and employment
- Human life cycle

Goal #3: Personal Attributes of a Self-Sufficient Individual

The attributes leading to self-sufficiency and independence are highly valued in our society, for they mean a person can move ahead on his/her own and take charge rather than depend on assistance. The self-sufficient person is driven by forces within rather than by external circumstances. A person who is self-sufficient and independent is more likely to be mentally and physically fit and to be a productive family member, worker, and citizen.

Possesses a Positive Academic Self-Concept

- describes own worth as unique and exhibits self-esteem toward school work
- describes own strengths and weaknesses and uses strengths
- demonstrates confidence in own ability to address learning challenges and shapes own future

Maintains a Healthy Physical and Mental Lifestyle

- describes the basic elements that contribute to mental and physical wellness
- maintains a personal plan for fitness and leisure activities
- describes the consequences of drug use and abuse

Is Adaptable and Flexible

- demonstrates a willingness to accept challenges and take risks
- monitors own behavior and can change behavior as the situation demands
- demonstrates willingness to learn new knowledge, skills, and behaviors
- functions well in unfamiliar and limited environments

Is Resourceful and Creative

- accepts new tasks or challenges with confidence
- generates alternatives when standard procedures fail
- looks for innovative and ingenious ways to approach old tasks
- makes efficient use of limited resources

Demonstrates Self-Control and Self-Discipline

- sets goals and works toward goals
- sets priorities and manages own time
- monitors own behavior
- describes acceptable and unacceptable behavior in different situations

Makes Decisions Based on Ethical Values

- describes basic values held by society
- maintains a personal value system
- uses criteria to make value decisions
- demonstrates truthful and honest behavior

Learns on His/Her Own

- identifies what needs to be learned and sets learning goals
- sets priorities and manages time for learning
- evaluates own progress toward goals and accepts feedback

Goal #4: Social Attributes of a Responsible Member of a Family, Work Group, or Community

The educated citizen is a productive member of a group. The shrinking world, the stress of contemporary life on the family, and the move to more interdependence in business and industry make attention to the social attributes more important than ever before. Although most of the values related to both personal and social attributes are the primary responsibility of the home, the school has many opportunities to reinforce these values and help students acquire the knowledge and social life skills that develop social attributes.

Possesses Interpersonal Skills

- uses basic verbal and nonverbal communication skills effectively to express ideas and feelings
- listens and is sensitive to the views and feelings of others
- demonstrates an awareness of the effect of own behavior on others and alters behavior to increase interpersonal communication
- uses problem-solving skills to resolve conflict in a nonviolent manner

Possesses Productive Team Member Skills

- establishes group identity
- uses interdependence of group members to develop group support
- uses the principles of cooperation to achieve group goals
- describes own strengths and is willing to contribute own strengths for the good of the group
- cooperates and contributes as a team member
- operates as a productive leader or follower

Displays Consistent Responsive and Caring Behavior

- responds to needs expressed by family members or members of groups and organizations to which the student belongs
- exhibits behavior that demonstrates concern for the common good of the family, group, or community

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- participates regularly in service activities that contribute to the school or community
- contributes services rather than remaining silent and letting others take responsibility

Recognizes Rights and Responsibilities

- demonstrates respect for authority
- recognizes own rights and responsibilities as well as the rights and responsibilities of family members
- recognizes rights and responsibilities of work group members
- recognizes rights and responsibilities of fellow citizens

Maintains a Multicultural/World View

- describes and values the contribution of different ethnic groups to society
- adapts to situations where persons of different value systems must work together
- communicates and interacts with persons of different ethnic backgrounds

Maintains an Open Mind to Alternative Perspectives

- listens to the views and perceptions of group members
- encourages other group members to expand and develop their ideas
- identifies common interests that are served by alternative positions and encourages the development of a group product

Goal #5: Thinking and Problem Solving

The skills associated with higher order thinking and problem solving are universal across all subject matter fields and across life experiences. Because this is the case, thinking and problem solving have been given the priority as one of the six performance goals of the Common Core of Learning. It is the intent that the problem-solving process will be taught early in the elementary school and emphasized through grade 12. It is our hope that the graduate of the future will exit grade 12 a resourceful problem solver who can apply these skills or habits of the mind to almost any situation in life.

Identifies and formulates problems or develops problem statements

- views reading, writing, speaking, and math assignments as problems to be solved
- recognizes unsettled circumstances as problems
- identifies the condition for a satisfactory resolution to the problem

Identifies what is known and what needs to be known to address the problem

- verifies what information exists and checks its validity
- states in succinct terms the information needed to further address the problem

Locates and organizes information

- generates a list of possible sources for finding information
- gathers information from a variety of sources to address the problem

Develops alternative solutions to the problem

- develops more than one hypothesis
- considers the consequences if different solutions are used
- develops criteria for best solutions

Makes informed decisions in selecting a possible solution to the problem

- uses criteria and logical reasoning to make decisions
- implements the decision once made

Evaluates the solution

- uses criteria to judge the effectiveness or appropriateness of the solution selected

- uses feedback from the evaluation process as a learning experience

Goal #6: Connecting and Integrating Knowledge

Kentuckians want graduates who can use the knowledge they learn. To be able to use knowledge, three conditions must exist. First, the student must organize the knowledge by connecting it to what he/she already knows--to the basic knowledge or main concepts and principles described in Goal #2. Second, he/she must own the knowledge. The knowledge must be integrated into his/her experiences. Third, to use this knowledge, the student must be able to apply the knowledge or connect it to real-life applications and experiences. In school or in any learning situation, students would first connect and integrate new knowledge and then apply it by using it to think and solve problems.

A process for organizing and utilizing new knowledge has been developed by having students answer seven questions about any new topic or unit of knowledge he/she may study or experience in school and in life. These seven questions should be used over and over again with each new topic studied in history, science, government, or health until they become habitual and natural ways to develop new knowledge. When these seven questions become automatic and the student has developed the skills to answer them, he/she will have developed a very important process of connecting and integrating new knowledge which can be used throughout life.

The seven questions designed to help students organize, internalize, connect, and integrate new knowledge follow. Each question is preceded by a learning objective that guides the student's inquiry.

1. **Makes historical connections using the new knowledge**

- What people, places, and events were important in the development, promotion, or use of this knowledge?

2. **Makes connections with basic knowledge**

- How does the new knowledge relate to core concepts and principles previously learned?

3. **Identifies applications of the knowledge in the real world**

- What are concrete examples of this knowledge being used and for what purpose?

4. **Describes methods for advancing the knowledge or the field of knowledge in which the content belongs**

- What are the processes and strategies that are used by persons who work in this field of knowledge to develop and advance it?

5. **Describes the contributions or potential contributions of the knowledge to society**

- How has this knowledge benefited and/or harmed society?

6. **Identifies personal relevance or potential personal relevance of the knowledge**

- How can this knowledge be useful to me personally or have an effect on my life presently or in the future?

7. **Describes relationships of the new knowledge with other fields of knowledge**

- What are the connections of this knowledge with other subject matter fields?

Three examples using these questions are presented in Table 4.

It should be noted that the learning objectives associated with the six goals do not specify what content should be learned in subject matter fields beyond basic communication and math skills (Goal #1) and the core concepts and principles (Goal #2). That is, no major stipulation from all subject matter fields is made about how

Table 4

Examples of Connecting and Integrating Knowledge

Questions Students Should Learn to Ask and Answer to Integrate New Knowledge With What They Already Know	Study Topics (Examples)		
	Automobiles	AIDS	Acid Rain
What historical connections does this knowledge have with people, places, and events?	France-1st steam vehicle-1770 Assembly line-Detroit-1903 World War I-Military use Dust bowl-1930-cars carried families to California	Came from Africa 1981-New York, L.A., and San Francisco Homosexuals Drug addicts	Northeastern United States Canada Scandinavian countries Germany
What connection does this knowledge have with basic skills and knowledges I have previously learned?	Transformation of energy Mobility Transportation Efficiency-Japanese autos	Immune system Infection Virus Sexually transmitted	Interdependence of living things Acids-bases Electrically charged particles Chemical changes The life cycle The water cycle
What are the applications of this knowledge in the real world?	Tractor Truck Ambulance Bus	Safe sex Health professionals take precautions Testing of military personnel	Paint damage on cars No fish in some northern lakes Trees dying Possible bridge and other structural damage Coal industry
What are the methods for advancing and developing this knowledge?	Design Engineering Marketing Research and testing	Looking for vaccine-research Information-risk factors Promoting positive attitudes-dispelling myths	International scientific research Atmospheric chemistry Pollution research Study of lakes and streams Scientists cooperate to solve problems
How has this unit of knowledge benefited or harmed society?	Nation on wheels Independence Family car-vacations Automobile-the leading killer	Cooperating to solve problems Changed sexual habits of Americans Killed 20,000 Americans	Kills fish, crops, forests Rusts cars and bridges International relations Loss of natural resources
What is the personal meaning of this knowledge?	Sports cars Independence Status symbol Travel for pleasure	Requires blood testing Requires precautionary measures	Car may rust sooner than normal Food could be contaminated Plant and water life in Kentucky could be affected Higher cost to consumer
What are the connections of this knowledge with other subject matter fields?	Economics-Japenese cars Sociology-population mobility Labor-unions Environment-pollution	Labor-Equal opportunity employment Law-legislative actions Sociology-end of sexual revolution Natural rubber industry revived	Automobile industry Geography Economics Life-physical science Political science

much science, mathematics, history, or foreign language each student should have. This decision is left to the local school system based on statewide established guidelines. This arrangement should encourage both local responsibility for the curriculum and for innovation. A locally developed curriculum with options based on broad state guidelines will be more likely to address the needs of students and ensure that standards for graduation and/or college entrance will be met.

Part V

A Statewide Plan to Assess The Common Core of Learning

The Need for a Better Way to Assess What Students are Learning

Determining what students know and are able to do with their knowledge (assessment of learning) is very important for the new Common Core of Learning. Determining how to assess what students know and are able to do is equally important. The what and how of assessment of learning send a clear message of accountability to teachers and school administrators. The assessment or type of "tests" tells students what must be learned to advance to the next level of their education or receive a grade. The method of assessment or kind of test used also greatly influences the type of instruction students receive because teachers want to show that their students are able to do what is being assessed.

In the past Kentucky has been satisfied to assess learning on a statewide basis using paper and pencil tests. These tests work well for finding out what specific content students know but do not work well for determining what students can do with what they know. These tests measure knowledge, ***not*** performance. The Comprehensive Test of Basic Skills, the standardized test presently administered statewide in Kentucky, measures whether students can identify the correct use of verbs; add, subtract, multiply, and divide decimals; obtain information from parts of a book; and demonstrate knowledge of facts used in the field of plant biology. Thus, Kentucky teachers and students have focused their efforts on developing this kind of knowledge.

The six goals of the Common Core of Learning call for new methods for assessing what students are learning that go beyond what paper and pencil tests measure. Assessment measures are needed to determine whether students can write a letter or story that communicates their ideas and has correct form and punctuation. Assessment measures also are needed to find out if students can compare the consumer costs of different types of loans, use different sources to locate information, and solve problems in plant biology. Relative to the goals for developing personal and social skills, assessment methods are needed to determine if students can demonstrate creativity and flexibility in new situations or if they can interact with a group and actively contribute to a group effort. In other words, assessment methods must show what students can do with what they know.

Although industry has used performance assessments for years, there are few existing models in education. In recent years a number of individual schools across the nation has experimented with new ways to measure student performance. (For a description, see Archbald and Newman "Beyond Standardized Testing," 1988, The National Association of Secondary Principals.) However, there are no statewide plans or models that emphasize performance. Therefore, the Council on School Performance Standards recommends that the state launch a major effort utilizing all available resources to develop performance assessment measures that address the six goals of the Common Core of Learning. Well-developed performance assessments will make "teaching toward the test" very desirable. Performance assessments also will encourage instruction that is driven by expected student performance.

Assessment Statewide and Assessment at the Local School

The emphasis on performance assessment or determining if students can apply their skills and knowledge will require local schools to continue their ongoing testing and assessment efforts but to do it better. Teachers will continue to use many of the assessment instruments they now use including paper and pencil tests. They will use the results of these tests to evaluate student progress, report progress to parents, and plan future instruction. Given the six goals of the Common Core of Learning, schools will need to develop new assessment measures that go beyond paper and pencil tests. These new assessment measures should determine if students can read, write, speak, and compute for different purposes which are similar to what they might experience in life or advanced training after high school. New performance assessment measures also will be needed to measure personal and social skills such as self-esteem, creativity, resourcefulness, group interactive skills, and contribution to a team effort; thinking and problem-solving abilities; and ability to learn on one's own and connect new knowledge to what has already been learned. These new assessment measures will supplement present practices of testing and evaluation.

Given the six goals of the Common Core of Learning, many schools will be quick to find innovative ways to assess the application of knowledge and student ability to use skills. However, development of performance assessments requires a major development effort so most schools will need help in strengthening and expanding the local school assessment plan. All local schools must have a strong assessment program for diagnosing learning needs, charting individual student progress, reporting progress to students and parents, and planning future instruction. Therefore, the Council recommends that a strong support system be developed to help local schools introduce and use more performance assessment measures. This state support would insure that each school district develops a strong local assessment plan and puts it in operation.

In addition and apart from the ongoing local school assessment plan, the Council on School Performance Standards recommends a statewide school assessment plan to determine the effectiveness of each elementary, middle, high, and vocational school in helping individual students achieve the six goals of the Common Core of Learning. It is further recommended that the statewide school assessment plan be operated by a state agency separate from the agency that provides direct assistance to schools. The school assessment plan would serve as the state's primary system to hold schools accountable for student learning.

In addition to the purpose of determining a school's level of performance, it is a purpose of the statewide plan to influence instruction in a most positive way. This means that the assessment system (the tasks/exercises and procedures for administering and interpreting assessments) must be designed to encourage teachers, counselors, librarians, administrators, and parents to help all students in the school to focus their learning on the six goals in the Common Core of Learning. The assessment system should consist of tasks designed so that teaching "to them" is encouraged, appropriate, and desirable but teaching the exact procedures or test items is highly unlikely. In other words, the assessment system should encourage educators to teach for the test but not be able to teach the test. Teaching the test is unfair and unethical.

The intent to develop an assessment program that influences instruction in a positive way also suggests that the assessments need to look as much like the desired learning objectives as possible. For example, if the goal is for students to learn to write, then actual writing should be assessed rather than just the identification of parts of speech tests or the recognition of correct spellings, punctuation, and grammar. Likewise, if we want students to have the social attributes of a responsible group member, the assessment tasks for this outcome should put the student in a group situation where he/she has the opportunity to demonstrate these social attributes. If teachers, principals, counselors, and librarians of a school realize that the statewide assessment requires students to demonstrate such a performance, they will be encouraged to plan instruction that prepares students for these performance tasks.

In summary, the primary purpose of the Statewide Assessment Plan is to determine how well each school is helping individual students to achieve the goals of the Common Core of Learning. A second but very important purpose is to influence instruction positively by designing the assessment tasks in a way that students have the opportunity to demonstrate the desired performance, thus encouraging preparation for important assessment tasks.

Key Features of the Statewide School Assessment Plan

Based on the advice of the assessment task force and national consultants, three important features are recommended for a statewide assessment plan that is efficient in cost and in student time and achieves the two purposes described above. The recommendations of the assessment task force are to

1. Assess students in grades 3, 5, 8, and 12;
2. Use a sampling procedure so that only a portion of the students in a school is assessed on the objectives related to each of the six goals but all students are assessed on some objectives; and
3. Develop performance assessment tasks for the objectives related to each of the six goals of the Common Core of Learning.

With respect to assessing students in only four grades, it should be remembered that the purpose of the statewide assessment program is to determine the effectiveness of the school; that is, how effective an elementary, middle, high, or vocational school has been in helping students achieve the common learning objectives. Thus, assessing students in the last year at each level allows the school to have maximum influence on the students tested. The exception is the midpoint assessment in elementary school at grade 3. The Council was concerned that waiting until Year Five, the last year of most elementary schools, would not provide information on how effective schools were in the early years nor provide the opportunity to address deficiencies if detected. Unlike the present system that designates certain days when all students are tested, different assessment tasks could be staggered over the designated assessment years of three, five, eight, and twelve. It is recommended that the assessment in grade 12 take place during the first semester of the senior year to avoid the effects of pregraduation activities and a decline of achievement motivation in the last semester.

The Council realizes that in specifying the four assessment years that there are schools across the state for which grades 5, 8, and 12 are not the last year in the school. These organizational differences would need to be addressed if the plan were adopted.

A sampling approach to assessment is recommended to address dual needs of fairness in assessment and efficiency in large-scale accountability. Two kinds of sampling are involved: sampling of students and sampling of assessment tasks. The concept of sampling is similar to procedures used by Nielsen to establish television ratings and by the Gallup Polls to gauge political races. As these procedures suggest, it is unnecessary to ask the entire population of viewers or voters the same questions in order to get an accurate accounting of results.

Sampling students, like sampling from the population at large, requires the selection of an adequate number of students who accurately reflect the characteristics of their group (e.g., grade level, ability level, school). Only the students selected for the sample through uniform statistical procedure would participate in the assessment of any one objective. However, all students would be selected for assessment tasks on some of the objectives.

Similarly, the sampling of assessment tasks means some students are assessed on problem solving, some on basic skills and knowledge, others on integration of knowledge, etc. The sampling of students and the sampling of assessment tasks can take place at the same time.

There are several advantages to this dual sampling approach.

1. A reliable indication of how much students are learning in a school is obtained without taking away a lot of instructional time for testing since any one student does not have to take all parts of the assessment.

2. Dividing the assessment program into different parts means that all assessment tasks or instruments do not have to be ready at one time but can be developed and introduced as they are ready.

3. Students do not all have to be assessed at the same time to accurately determine the school's performance level.

4. By testing only a portion of the students, the cost of the assessment program is greatly reduced over what it would be if every student participated in every part of the assessment.

The third feature of the plan, the development of performance assessment tasks across all six goals, will send a strong message to teachers and support staff in a school to focus instruction on what students can do with knowledge and skills rather than on the knowledge itself. Performance assessment tasks are exercises or procedures used to assess student performance on learning objectives or group objectives. Some assessment tasks may be paper-and-pencil tests; other tasks may include simulations where a student must make decisions based on his/her knowledge and skills; others may require students to perform in a group; still other assessments may require students to produce a report, develop a portfolio, or operate a piece of equipment. An important feature of assessment tasks related to the six goals of the Common Core of Learning is that they all focus on the application of knowledge and skills.

The first step in developing assessment tasks will be to involve representative teachers, curriculum specialists, and subject matter experts from across the state and work out the specific learning objectives and/or performance expectations for each grade level in relation to the six goals of the Common Core of Learning. This report and the four task force reports presented in Appendix D provide a blueprint for this procedure.

Once this first step is completed, school staffs can begin to use this list of learning objectives and performance expectations for planning local school curricula; and assessment development teams can use this list to develop assessment tasks for the Common Core. Assessment tasks will need to be developed for each of the four designated grade levels and for each of the six Common Core goals, and the assessment tasks must address content from all major subject matter fields. A plan for the development of assessments over a six-year period is presented in Part VII of this report.

For some goals and some content areas appropriate assessments have been tested and are available. In other areas Kentucky will be charting new territory in developing performance assessments. The recommended plan is to start immediately with assessments that are appropriate and available and to work on developing performance assessment tasks in those areas where none exist.

The assessment task force has recommended a number of possible assessment techniques and measures with suggested uses and appropriate cautions. See Appendix E for this list and set of descriptions.

Part VI

New Roles, Structures, and Processes for Implementing a Performance-Driven Curriculum

A performance-oriented curriculum will require major changes in how schools operate and how teaching and learning take place. Although the reform of school structures, instructional processes, and professional roles was not part of the charge to the Council, these were discussed because they are so vital to implementing the Common Core of Learning.

New Roles for School Staff

A curriculum that addresses the six goals of the Common Core will require the role of principal to change from one of a traditional administrator to one of ***leader who will involve teachers in decision making and encourage teamwork***. Principals will need advanced skills for involving teachers in teamwork and shared decision making, managing human resources, facilitating professional growth, and evaluating the effectiveness of instructional teams.

Teacher roles also must change from that of a primary information source and explainer of textbooks to one of ***organizer, leader, and facilitator of learning experiences and resources***. This change will require professional skills that have not generally been included in teacher education programs.

First and foremost, the teacher of the Common Core curriculum will need to be able to manage a number of learning groups of different sizes, all operating at the same time (not just one class). He/she will need to manage flexible time schedules, a wide variety of learning resources, and the effective and efficient use of space. Second, he/she will need to be a master at assessing what students already have learned and will need to make judgments about a student's most profitable next learning experience. As an assessment expert, he/she will need to evaluate and keep records of student progress in all six goal areas (i.e., basic skills, personal attributes, social attributes, problem-solving skills, and the ability to learn new things on their own).

Third, the teacher of the Common Core of Learning will need to be able to identify and use community resources from business, industry, government, and service agencies for learning. Fourth, the teacher will need to possess the skills to use computers and other technology as tools for learning and sources of information. Fifth, teachers of middle school, high school, and vocational school will no longer have the luxury of teaching only one or two academic or technical fields of study (i.e., single classroom). In the new curriculum, teachers will be asked to serve on interdisciplinary teaching teams and to plan, implement, and evaluate instruction as a group effort.

New Organizational Structures and Instructional Processes

Along with new roles, school structures and processes must change. Although the Council is not prepared at this time to offer models for restructuring schools, the following eight ideas were identified by the elementary, middle, high, and vocational schools as essential for implementing the new Common Core of Learning.

1. ***There should be more local school flexibility in the use of space, time, equipment, and materials.*** Given the new Common Core of Learning, teachers and administrators at the local school level should be empowered to make decisions about planning and implementing the most efficient and productive learning environment for their students. When the performances required of students are communicated to schools along with the methods for assessing student performance, teachers and administrators should have the opportunity to exercise their professional judgment and be held accountable for their decisions. Thus, school-based management should become an essential feature of implementation plans for the Common Core curriculum.

2. ***There should be much greater involvement of parents, the community, business, and industry in planning and implementing the school curriculum.*** Schools need to find more effective ways to involve parents as members of the instructional team. Planned educational experiences must extend beyond the school to the realm where the parents are in charge. The added emphasis on relating learning to real life and preparing for the world of work, family life, and civic responsibility both imply that resources in the community should play a much larger role in the local school curriculum. First, a variety of strategies needs to be developed to use personnel in business, industry, and government for instruction in specific content areas. Second, innovative arrangements need to be made with local businesses, industries, public agencies, and private agencies to provide on-site learning experiences for students as a planned part of their educational program. Third, volunteerism, especially from the growing retired population, needs to be utilized to the fullest degree. Fourth, work study programs for students 16 years and older should be developed to enable a majority of

high school students to experience the world of work as a planned learning experience regardless of their plans after high school. The move of the schools into the community and the community into the schools will not only create more opportunities for learning, it will generate more local support for the schools.

3. ***Teachers should use more experiences and situations from real life as content for learning.*** The basic skills and knowledge as well as problem solving will make more sense and have personal relevance if linked to what the student has experienced in real life. For example, the elementary student should learn about democracy through the development of classroom rules. The middle school student should learn percent by studying real installment purchases. These applications will often require teachers to go beyond the textbook and use local resources and local situations for instruction, yet this is not to say that every single learning objective in mathematics or geography must have a meaningful personal application for each student. However, most learning objectives can have a personal meaning; and the linkage should be made by the teacher.

4. ***Schools should make much greater use of all forms of technology as a tool for learning and assessment of learning.*** Computers, video discs, and satellite transmission have made available new exciting learning processes and unlimited sources of new knowledge. Even in the most remote rural areas of Kentucky, personal computers and video transmissions via satellite provide potential for learning experiences for students K-12 that far exceed what have been organized and used. Schools of the future that fail to tap into the resources technology brings will be both inefficient and irresponsible. The day when the teacher and the textbook were the primary sources of knowledge is past.

Schools of the future need to embrace technology as a tool for learning and recast the role of the teacher from knowledge source to a manager of learning experiences.

The use of technology as an assessment tool and as a management tool for assessment data also needs more attention and development. Much more is available in computer software and in data management techniques than has been used. These barriers of the mind must be overcome!

5. ***Schools should create student learning teams as a strategy to develop skills of cooperation and productive group membership.*** This strategy is most important at the elementary and middle school level. Students ought to teach each other in organized learning groups because it has been found to be highly effective for learning content, developing interpersonal skills, and developing responsibility as a group member. While students need to learn on their own, they also need group learning experiences to develop the social attributes of responsible group membership they will need in life. Mixed-ability student learning teams in contrast to high and low ability classes can help students realize their individual strengths and how to use their individual strengths to be contributing group members. While planned learning experiences in teams are presently used in some schools, this strategy needs to be employed to a much greater degree if the learning goal to become a responsible member of a family, work group, or community is to be realized.

6. ***Schools should create and use interdisciplinary teaching teams to plan and deliver instruction.*** If students are to make connections between key concepts in science, history, government, language, etc., instruction should be presented in a manner that makes it easy for them to make these connections. For example, if an environmental

problem is to be looked at from a scientific, a health, and a political perspective, then instruction should be planned by teachers with expertise in each of these areas working together as a team. For some topics, members of the team could be individuals from business, industry, or a government agency. Presently, most subject matter fields (i.e., biology, mathematics, civics, etc.) are taught by one instructor; and the topics covered are presented from one point of view. For some purposes, this may be the best arrangement. However, if the goal is for students to see real-life problems and situations from different points of view and to be able to make connections, it would seem logical to create instructional teams composed of teachers from several different subject matter fields to design and deliver instruction that links knowledge from different content areas.

7. ***Schools must have an assessment plan that provides ongoing information about each child relative to the six goals of the Common Core of Learning.*** The curriculum of the Common Core will be more tailored to the needs of individual children and their abilities. The curriculum will address goals of problem solving, personal and social life skills, and the ability to learn on one's own which previously have not been identified as statewide priorities. This expansion of student expectations calls for a more comprehensive student assessment system at each school to keep students and parents informed of learning progress and to plan future instruction. New methods of record keeping will be required that use new technology and do not burden teachers with more paperwork and clerical duties.

8. ***There must be guaranteed success experiences for each child. School cannot be perceived by the student as a failure experience.*** If it is a failure experience, learning in school will be minimal; and he/she will run a high risk of dropping out of school at the

earliest opportunity. Schools must develop success-oriented curricula, establish mechanisms for detecting students who are not successful, and have the ability to design alternative learning strategies that insure success. Success is extremely important in the early grades; however, successful experiences in learning continue to be the key to a positive attitude toward school. Students will not fail school if schools will not fail students and insist that all children can learn, want to learn, and can be successful learners.

New Training for Teachers and Administrators

The new structures, processes, and professional roles previously described have tremendous implications for inservice training and for the way new teachers and principals are prepared. Teacher education will need to include more training in managing instructional groups and instructional resources. Teachers also will need to be more skilled in assessment, in involving parents, in the use of community resources, and in new technologies as tools for learning. Middle school and high school teachers will need special training in how to work efficiently and effectively as members of teaching teams when called on to do so. All teachers will need special training in the new Common Core of Learning curriculum and the broad range of instructional strategies needed to implement the new curriculum.

Principals will need special training in human resource management, in team building, in involving teachers in shared decision making, and in developing school partnerships with business and industry. Principals also will need specialized intensive training in the new Common Core of Learning curriculum and effective teaching strategies needed for implementing the new curriculum. Successful management training models from industry will need to be identified and adapted for use in school situations.

Part VII

A Program for Implementing a Statewide School Assessment Plan and Program for Providing Support for Curriculum Development

The Need for Two Development Programs

As the five task forces worked to determine what students should know and be able to do and how to assess learning, it became clear that to develop learning goals and methods of assessment without relating these items to a support system for the development of curriculum would be educationally unsound and unfair to schools required to meet the new performance standards. Therefore, two long-range programs are proposed: (1) ***a program for the development and operation of the Statewide School Assessment Plan*** and 2) ***a program of statewide support for curriculum development***. The Statewide School Assessment Plan should be operated by a designated state agency; and the statewide support system for curriculum development should be operated by the Kentucky Department of Education, assuming the Department's functions would continue as in the past. The Assessment Plan would function as the state's primary system for school accountability for student learning. The support system for curriculum development would function as the enabling force to help local schools meet their obligations to the state. While the Assessment Plan and the support system must remain separate entities, their development efforts must be coordinated.

A Program for the Development and Operation of a Statewide School Assessment Plan

The development and implementation of assessments for the new Common Core of Learning will be costly and require a long-term commitment by the state, even though techniques like assessing only in grades 3, 5, 8, and 12 and sampling are used to increase efficiency. Because the Council is recommending performance assessment over simple knowledge and skills tests, most assessments must be developed and tested before they can be used statewide. However, since the plan is to make the performance assessments influence instruction in a positive manner, a major statewide effort to develop performance assessments is extremely important to curriculum reform.

Presently, the state spends about one-tenth of one percent of its education budget to insure the quality of its products. Business and industry spend a much larger proportion of their budgets on quality control and view the costs as a profitable investment. Kentucky ***can*** afford to spend a larger portion of its education budget to insure that students are learning what Kentuckians consider most important and still be behind what is considered good business practice.

In Part V an assessment plan designed to determine school effectiveness relative to the new Common Core of Learning was described. What follows is a proposed program to develop and make this plan operational over a six-year period. The six-year time frame is only a rough estimate of time needed, assuming adequate support for development of assessments is provided. With more financial support, the time frame of six years could be shortened. With less than adequate support, it will take longer than six years.

The development and operation of a statewide plan for school assessment are very complex and highly technical. Developing new performance assessments, pilot testing these assessments, and ensuring their validity and reliability will require time and a high level of expertise from assessment, curriculum, and teaching specialists.

Year One Start-Up Activities

Year One in the program will be a time for planning the details of the assessment plan and for developing the blueprint to build and operate it. The following activities should occur in this start-up phase.

1. Refine the objectives or learning outcomes associated with each of the first-year goals
2. Identify appropriate outcomes for grades 3, 5, 8, and 12
3. Decide on the order of development of assessment tasks (which objectives, which content areas, which grade level should be developed first, second, etc.)
4. Obtain statewide agreement on the core ideas and principles that should make up the core knowledge pool
5. Design an overall blueprint for assessment development
6. Develop sampling procedures
7. Identify tests or assessments which exist and can be purchased and which need to be developed

Ongoing Assessment Activities

Once the Year One start-up activities have been completed, development, implementation, and evaluation activities will be ongoing. Key ongoing assessment plan activities would be to

1. Orient school practitioners to the assessment plan,

2. Communicate with the Kentucky Department of Education staff involved in assisting local schools in curriculum reform,
3. Develop new assessment tasks and instruments,
4. Pilot test and validate new assessments,
5. Develop scoring and scaling procedures for assessments,
6. Train assessors,
7. Administer statewide assessments that have been pilot tested and are ready for use,
8. Evaluate and modify assessments, and
9. Communicate with teacher education institutions across the state to align their training program with the Common Core of Learning.

The development and pilot testing of new assessments will be more intense during the first six years of the program but will continue after the initial development phase to revise and refine the system.

A Proposed Time Schedule for the Development of Assessments for the Common Core

The following proposed time schedule for development and pilot testing of assessment related to each of the six goals in the Common Core of Learning is over-simplified to communicate how development might proceed. Table 5 presents a plan that shows development of assessments, pilot testing, and the first administration of assessments as a three-year cycle.

A Program for Developing a Statewide Support System for Curriculum Reform

The Statewide School Assessment Plan and the Common Core of Learning define what students should learn and how the learning will be assessed but allow maximum

Table 5

Proposed Six-Year Time Schedule for Developing, Pilot Testing, and Implementing Assessments Statewide for the New Common Core of Learning

	Stage of Development	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
The Development of Performance Assessments	Develop Assessments	Start-up Activities	-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem Solving	-Social Skills -Integration of Knowledge		
	Pilot Test	Define Performance Expectations for Each Grade Level		-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem solving	-Social Skills -Integration of Knowledge	
	Implement Assessment Statewide				-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem Solving	-Social Skills -Integration of Knowledge

flexibility for local schools to exercise professional judgment regarding the best school structures and instructional strategies for learning. Since many local school districts do not have the developmental resources for the curriculum reform measures called for by the Common Core of Learning, a major support system for curriculum reform and performance will need to be developed and administered by the State Department of Education. The Department should involve school district consortia, professional organizations, professional development centers, higher education institutions, and other educational agencies throughout the state, both public and private, to assist in developing a network of curriculum reform services. Based on the need for skills in managing human resources, business and industry should be considered as a major contributor. Various support services will be needed to develop school curricula that address the new Common Core of Learning.

-- Training for managers of teaching teams

-- Training for school-based management

-- Training for interdisciplinary teaching teams

-- Training for leading school curriculum development processes

-- Training for the identification and utilization of business, industry, and other community resources for learning

-- Training in the use of flexible time schedules for learning

-- Training in the use of computers and technology as learning tools

-- A variety of student assessment measures related to the six goals of the Common Core that teachers can use to measure student learning progress

-- Model curricula in

development of basic skills/communication and math skills

development of essential knowledge (core concepts and principles) development of higher order thinking skills, including problem-solving skills

development of personal attributes

development of social attributes

development of integration of knowledge skills

Innovative schools, teachers, and administrators in Kentucky will no doubt provide the major proportion of the resources for school reform as they share their successes with their colleagues. The Department of Education should continue to strengthen its efforts to identify innovative practices in schools and make this information available to school staffs throughout the Commonwealth.

Incentives, Flexibility, and Structure in Implementing Curriculum Reform

While there should be maximum flexibility in state regulations to encourage schools to design organizational structures, staffing arrangements, and instructional strategies that will maximize learning for students, there also needs to be an accountability system to insure that all schools are addressing curriculum reform. One way to encourage local initiative and at the same time insure that all schools are developing curricula for the new Common Core of Learning is to develop a time schedule for schools to develop and adopt local school curriculum plans that address each of the six goals. Plans should be submitted to the Department of Education for approval. The plan should show assessments for the six goals of the Common Core developed in the following order:

Year Two Development	Basic Skills Core Concepts and Principles (Essential Knowledge)

Year Three Development	Problem Solving Personal Skills
Year Four Development	Social Skills Integration of Knowledge

The time schedule shown in Table 6 is only a general plan assuming moderate support for development. The schedule could be expanded or compressed depending on available resources. The staggered development by goals of the Common Core of Learning could be modified to include development of assessments by grade level (i.e., grades 3 and 5 followed by 8 and 12) or by subject matter areas (i.e., math and science, social studies and humanities). Areas where assessments are already available commercially or on loan from other school systems should be introduced first.

The Council highly recommends that the state through the Department of Education provide incentive grants to encourage the development of innovative local curriculum models that have involved the local staff, parents, and community in planning. *Schools that develop and adopt local curriculum plans that meet state guidelines on schedule have the opportunity to implement their own plan*. The Council also recommends a structure for schools that fail to develop and adopt curriculum plans on schedule. *Schools which fail in their responsibility for planning should lose local control and be required to adopt a state curriculum model under the direction of the Department of Education*. This arrangement would provide encouragement and reward for innovation and a structured approach for schools that need help in developing and implementing curriculum reform. Table 6 presents a proposed schedule for school plans and for the implementation of curriculum reform plans related to each of the six learning goals of the Common Core. This schedule is designed to coordinate the planning, adoption, and

Table 6
Proposed Schedule for Schools Planning, Adopting, and Implementing Curriculum Related to the Six Goals of the Common Core

	Stage of Development	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
The Development of the Performance-Driven School Curriculum	Plan Curriculum	Start-up Activities	-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem Solving	-Social Skills -Integration of Knowledge		
	Adopt Plan/ Program Development	Define Performance Expectations for Each Grade Level		-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem solving	Social Skills -Integration of Knowledge	-Social Skills -Integration of Knowledge
	Implement				-Basic Skills -Core Concepts and Principles (Essential Knowledge)	-Personal Skills -Problem Solving	

implementation of school curricula with the development, pilot testing, and implementation of the assessment program.

Part VIII

How the Six Goals of the Common Core of Learning Address the Seven Capacities Listed by the Supreme Court Ruling as Required for an Efficient School

Capacity (I)	**sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization**

The basic skills of reading, writing, and speaking in Goal #1 directly address this capacity word for word. However, there is more. The ability to operate a computer and locate and process information using technology are also important and should be considered essential skills of the future. Also, the personal attributes of adaptability and flexibility in new situations as well as resourcefulness and creativity in Goal #3 will address the student's need to face a complex and rapidly changing civilization.

Capacity (II)	**sufficient knowledge of economic, social, and political systems to enable the students to make informed choices**

Essential knowledge in Goal #2 includes the core concepts and principles of economic, social, and political systems. Goal #5 requires the student to obtain experience and practice in addressing and solving problems of economic, social, and political systems. Goal #6 requires the student to learn subject matter beyond the basics in economics, social science, and political science in a manner that links textbook knowledge, current events, and personal experiences in these fields of knowledge with the student's previous learning.

Capacity (III) **sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation**

As in Capacity II, a mastery of core concepts and principles in government addressed in Goal #2 is followed by more advanced learning that integrates new knowledge and experiences in government with basic knowledge in Goal #6. This capacity to integrate new knowledge and experiences in government with basic and other fields of knowledge insures a growing knowledge base in understanding governmental processes. Solving real problems in government at the local, state, and national levels is a requirement for Goal #5 and addresses Capacity III.

Capacity (IV) **sufficient self-knowledge and knowledge of his or her mental and physical wellness**

Three of the six goals directly address this capacity. First, the attributes of Goal #3 (i.e., positive self-concept, a healthy physical and mental lifestyle) address the disposition for physical and mental wellness. In Goal #2 the core concepts and principles of human behavior and development as well as health, fitness, and drug education are learned. In Goal #6 advanced topics in human behavior and in health, fitness, and drug education are considered and integrated into the student's knowledge base and belief system.

Capacity (V) **sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage**

It is assumed that the term "arts" has a broad meaning similar to the subject matter fields included in the humanities. In Goal #2 the core ideas and "grounding principles" of literature, history, music, dance, art, drama, and languages are learned. In addressing Goal #6, all content is considered for (a) its historical meaning, (b) its relationship to basic knowledge, (c) how knowledge in the field (the arts) is developed and promoted, (d) its contribution to society, (e) its personal meaning to the student, and (f) the relationship of knowledge (the arts) to other fields of knowledge.

Capacity (VI) **sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently**

Goals #2 and #6 contribute to this capacity, but each makes a unique contribution to preparation for advanced training. Goals #1 and #2 provide the basic skills and basic knowledge. Goal #3 contributes the personal self-confidence, resourcefulness, and adaptability to pursue advanced training. Goal #4 prepares the student for interdependence and the ability to function in cooperative learning efforts or work groups essential for advanced training. Goal #5, thinking and problem solving, develops student abilities in the most important set of processes and skills needed for advanced training and life. Goal #6 helps the student make connections between fields of knowledge and his/her own experiences. In Goal #6 students not only study the fields of knowledge but also examine each with regard to the people, places, and events associated with the field of knowledge, its contribution to society, and its potential personal meaning to students. All six goals of the Common Core of Learning were designed to produce the competent high school graduate.

Capacity (VII) **sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics, or in the job market**

The six goals do not specify the amount of advanced training each student should have in an academic or vocational field. This decision is left to the local school to decide based on local priorities and students' needs. However, the six goals and their learning objectives, if obtained, will provide high school graduates from Kentucky with a competitive edge over graduates from surrounding states. The grounding in basic communication and math skills (Goal #1), core concepts and principles from all subject matter fields (Goal #2), the personal attributes of self-sufficiency (Goal #3), the social attributes of a contributing group member (Goal #4), problem-solving skills (Goal #5), and the ability to connect and integrate knowledge (Goal #6) are all designed to provide students with the ability to be competitive in college or in the work place. Together these six goals should provide a value-added education that makes students highly competitive in Kentucky, in other states, and in other countries.

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Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should be Assessed

The Report of The Council on School Performance Standards

COMMONWEALTH OF KENTUCKY

Volume II
Appendices

September 1989

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Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should be Assessed

The Report of
The Council on School Performance Standards

Volume II
Appendices

Presented to:

Governor Wallace G. Wilkinson
The Kentucky General Assembly
The Superintendent of Public Instruction
The State Board for Elementary and Secondary Education

Table of Contents

Appendix A: Executive Orders

Appendix B: Expectations of High School Graduates,
A Report Prepared by the Survey Research
Center, University of Kentucky

Appendix C: Special Report: Summary of Telephone
Survey Data

Appendix D: School Task Force Reports

- D1: Elementary School Task Force Report
- D2: Middle School Task Force Report
- D3: High School Task Force Report
- D4: Vocational School Task Force Report

Appendix E: Assessment Task Force Report

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APPENDIX A

Governor Wilkinson's
Executive Orders

APPENDIX A

WALLACE G. WILKINSON
GOVERNOR

EXECUTIVE ORDER

89 - 151

February 8, 1989

Secretary of State
Frankfort
Kentucky

THE CREATION OF A COUNCIL ON SCHOOL PERFORMANCE STANDARDS

WHEREAS, it is the function of the public schools to guide, nurture and teach the children and youth of the Commonwealth in the acquisition of the body of knowledge and skills which it has determined they should know and be able to do at various stages in their education; and

WHEREAS, the essence of what the Commonwealth desires children to be able to know and do is embodied in the curriculum of the public schools; and

WHEREAS, the public needs to know the degree of success each child experiences in acquiring all the designated body of knowledge and skills as he or she progresses through the educational process; and

WHEREAS, there needs to be established a credible process, common to all public schools, for documenting the educational progress of every child in the Commonwealth; and

WHEREAS, the public desires to know the educational progress of children on an individual school basis:

NOW, THEREFORE, pursuant to the authority vested in me by KRS 12.029, I, Wallace G. Wilkinson, Governor of the Commonwealth of Kentucky, do hereby create a Council on School Performance Standards which shall advise the Governor, the General Assembly, the Superintendent of Public Instruction and the State Board for Elementary and Secondary Education regarding the following:

1. The extent to which the Kentucky Program of Studies will satisfy the present and future educational needs of the Commonwealth's children and youth, and what may be required to strengthen it;
2. Standards for student performance at various stages in a child's educational program which can provide a basis for fairly and accurately assessing the educational progress of every child in the public schools;

WALLACE G. WILKINSON
GOVERNOR

EXECUTIVE ORDER

89 - 151

February 8, 1989

Secretary of State
Frankfort
Kentucky

Page Two

3. Appropriate methods of assessing learning, suitable for statewide use, which schools can use to document the extent to which children are acquiring all the knowledge and skills expected of them at specific points in their educational program, given their relative ability to do so;

4. The extent to which the curriculum of the public schools can be appropriately adapted to the difference in learning styles of children, taking into consideration the inherent ability of children to attain the expected knowledge and skills.

To accomplish this charge, the Council shall at all times conduct its business in a manner designed to instill public confidence in its findings and recommendations. The Council shall provide to all interested groups and individuals appropriate opportunity for participation in its deliberations, and shall secure the best professionals and technical advice available. To achieve these goals, the Council may hold public hearings, create standing or ad hoc committees, employ consultants, and commission the writing of issue papers. The Council shall report its initial findings and recommendations to the Governor, Superintendent of Public Instruction, State Board for Elementary and Secondary Education, and the General Assembly on or before August 1, 1989.

Wallace G. Wilkinson
WALLACE G. WILKINSON
Governor

BREMER EHRLER
Secretary of State

APPENDIX A

WALLACE G. WILKINSON
GOVERNOR

EXECUTIVE ORDER

89 - 166

February 14, 1989

Secretary of State
Frankfort
Kentucky

MEMBERS
COUNCIL ON SCHOOL PERFORMANCE STANDARDS

Pursuant to Executive Order 89-151 and KRS 12.029, I, Wallace G. Wilkinson, Governor of the Commonwealth of Kentucky, do hereby appoint the following members to the Council on School Performance Standards:

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APPENDIX A

WALLACE G. WILKINSON
GOVERNOR

EXECUTIVE ORDER
89 - 166

February 14, 1989

Secretary of State
Frankfort
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Page Two

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Please issue to them Commissions.

Wallace G. Wilkinson
WALLACE G. WILKINSON
Governor

Bremer Ehrler
BREMER EHRLER
Secretary of State

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APPENDIX B

University of Kentucky

Survey Research Center Report

EXPECTATIONS OF HIGH SCHOOL GRADUATES

A Report to the Governor's Council on
School Performance Standards

Prepared by the
Survey Research Center
University of Kentucky

Robert W. Moore, Ph.D.
Research Coordinator

James G. Hougland, Jr., Ph.D.
Director

June, 1989

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EXPECTATIONS OF HIGH SCHOOL GRADUATES

The Governor's Council on School Performance Standards has the task of formulating recommendations for the improvement of the public schools in Kentucky. As part of the information gathering process to achieve this task the Council commissioned the Survey Research Center (SRC) at the University of Kentucky to assess what people expect of high school graduates with regard to knowledge, skills, and values. A telephone survey of two separate samples was conducted to gather the necessary data. The first sample was a random digit dialing selection of households in Kentucky. The second sample was composed of opinion leaders from nine sectors of Kentucky's society. This report describes the results of the telephone survey.

METHODS

1. Questionnaire. The questionnaire was developed with a wide range of participation from many parties. Once the purpose of the survey had been established (that is to assess the expectations Kentuckians have of high school graduates in the areas of knowledge, skills, and values) several group meetings were held throughout the state to select the limited number of items that could be placed on the questionnaire. These groups included educators, parents, students, business leaders, and government officials. The objective was to select important questions and issues and remain within the limit of having

telephone interviews average 15-20 minutes. (The actual average duration was 24 minutes.) The staff of the SRC converted the topics and items suggested into the form and style of a telephone interview. This interview was pretested and revised before the survey began. A copy of the the questionnaire is included in the Appendix.

2. Samples. The general population sample was selected by a two-stage cluster process in which every household in Kentucky with a telephone had an equal chance of being selected in the sample. (The telephone saturation rate of Kentucky households is 89%). A randomly interviewed respondent, either male or female, was prescribed for each household contacted. A total of 637 interviews were completed from a sample of 1210 households for a response rate of 53%. The refusal rate for the general population portion of the survey was 26%. Others in the sample who did not complete the interview were unavailable due to hearing problems, prolonged illness, travel, or similar factors. The sampling error is plus or minus 4%.

The opinion leader sample was selected from nine subpopulations. These subpopulations were selected as part of the same series of group meetings that generated the items for the questionnaire. A total of 201 interviews were completed from a sample that included 274 opinion leaders for a response rate of 74%. The refusal rate for the opinion leader portion of the survey was 8%. The nine subpopulations are listed below along with approximate size and the method of sampling from each. The sample size for each subpopulation and the corresponding response rate are shown in Table 1.

Members of the Prichard Committee on Academic Excellence. The subpopulation size is 80. A simple random sample was selected from a list of members provided by the committee staff.

Chairmen of School Boards. The subpopulation size is 178, one for each school district in Kentucky. A simple random sample was selected from the names in the Kentucky School Directory, 1988-89.

School district superintendents. The subpopulation size is 178, one for each school district in Kentucky. A simple random sample was selected from the names in the Kentucky School Directory, 1988-89.

PTA presidents. Approximately 3000 schools are listed in the Kentucky School Directory for 1988-89. As many as 35% of these are thought to have some sort of parent-teacher association or organization. This suggests an estimated population size of 1050. A simple random sample of schools listed in the directory was selected. An interviewer called each school and asked to be put in touch with the president of that school's PTA, if any. (Schools with no PTA or similar organization were omitted from the sample.)

Chamber of Commerce Presidents and Staff. The subpopulation size is approximately 185. A simple random sample was drawn from the 118 local Chambers of Commerce listed in the 1988-89 Directory of the Kentucky Chamber of Commerce. If both a president and staff person were listed in the directory, then one or the other was randomly selected to be interviewed. If only one person was listed, then that person was interviewed.

Employment Counselors and Personnel Directors. The population size is unknown. Half were selected from a list of 98 heads of public employment offices throughout the state which operate under the auspices of the state's Department for Employment Services. The other half was selected from private companies with headquarters throughout the state.

Community College Faculty. The subpopulation size is 848. A simple random sample was drawn from a list of full-time teachers in Kentucky community colleges. (Community college faculty were chosen as a subpopulation because they have more contact with recent high school graduates than other college and university faculties.)

State Legislators. The population size is 136. A simple random sample was drawn from a list of Kentucky state legislators.

Chief Executive Officers of Kentucky Businesses. The population size is unknown but doubtless numbers in the thousands. Half of the sample was selected from the Kentucky Directory of Manufacturers and half from telephone directory listings which tend to include more service and retail businesses than manufacturers. The sample was selected so that it included businesses leaders from all sections of the state.

Table 1 shows the sample size, the number of completions, and the response rate for each subsample. Deviations from these numbers in the analysis are due to missing data resulting from respondents' refusal to answer a question or inability to choose a meaningful response category.

Table 1. Sample size and response rate, by subsample.

SUBSAMPLE	SAMPLE SIZE	NUMBER OF RESPONSES	%
School Board Chairs	28	22	79
School District Superintendents	26	22	85
Prichard Committee Members	30	23	77
PTA Leaders	30	22	73
Chamber of Commerce Leaders	28	23	82
Employment Counselors and Personnel Directors	32	23	72
College Faculty	25	22	88
State Legislators	29	22	76
Chief Executive Officers	27	22	81
OPINION LEADER SUBTOTAL	255	201	79
General Population Sample	1203	637	53
TOTAL	1458	838	57

3. Data collection. The data were collected by trained, experienced interviewers working at the SRC with supervision. Data collection from the general population sample began on May 2 and ended on May 18. Data collection from the opinion leader sample began on May 15 and ended on May 25. Each questionnaire was edited by a supervisor as it was handed in by the interviewer. Then the open-ended questions were coded. After the coding was completed the questionnaires were sent to American Data Services for data entry and verification.

4. Analysis. Data entry for electronic data processing was performed by American Data Services of Louisville. The data were transferred to the IBM 3084 mainframe computer at the University of Kentucky. The analysis was conducted by the staff of the SRC using the Statistical Analysis System (SAS). The analysis consists of bivariate tests of significant differences using the t-test, the F-test (analysis of variance), or chi-square statistics as indicated by the level of measurement of the data. Percentages and averages are presented in the analysis.

The analysis is organized around five themes. The first is an overall rating of the quality of education in Kentucky. The second is the question of how Kentucky high school graduates have changed in the last five years, whether they have gotten better, worse, or are about the same.

The third theme is the relative importance of different areas of instruction. This was assessed two ways. First, respondents were asked what proportion of high school graduates should achieve specific skills or knowledge in each of eleven areas. The overall value for each area is the average of the responses for the items in that area. Second, each respondent was asked to imagine a situation in which there were 1000 hours of instruction available in a school year. The area "Government, Economics, and Politics" was chosen as an "average" area in importance which would thereby have 100 hours allocated for instruction. Respondents were asked to consider the other nine areas one at a time and compare each to the benchmark area of "Government, Economics, and Politics." After making the mental comparison, they were asked how many hours should be allocated for that area if "Government, Economics, and Politics" received 100 hours. No effort was made to limit the sum of their responses to 1000 hours. Instead, their responses were adjusted so that the sum of each respondent's hours allocated to all eleven areas was 1000 hours. Approximately 5% of all respondents found this task to be uncomfortably difficult and did not complete this portion of the interview.

The fourth analytic theme concerned the relative importance of different values. Respondents were asked to rate the importance of thirteen values. The fifth theme, related to the fourth, concerns who has the major responsibility for instilling this value in Kentucky's young people. The school, home, church, or other agency were offered as optional responses. For each value the respondent was asked to indicate whether the school had major, some, little, or no responsibility for instilling the value.

The remaining items on the questionnaire were general demographic and background questions that are used to make subgroup comparisons in the analysis. Before presenting results on the five themes described above, the two samples are briefly described.

Characteristics of the Two Samples

The total sample of 838 respondents is composed of 201 opinion leaders (24%) and 637 persons from the general population (76%). The average age of the opinion leaders (OL) was 47.1 years, compared to an average age for the general population (GP) group of 46.0, a difference that is not statistically significant. In addition, the average number of years lived in Kentucky for the two groups was essentially the same: 39.2 years for the OLs, and 39.1 years for the GP.

The two samples were significantly different with regard to their sex composition. Of the GP respondents, 54% were female, compared to only 38% of opinion leaders. (The chi-square test of significance value is 16.53, with one degree of freedom, with an associated probability of less than .001 that the observed difference is due to sampling error.)

The two samples were not significantly different with regard to the regions of the state in which the respondents resided. The western region had 27% of the OLs and 22% of the GPs; the central region had 23% of each sample; the northern region had 6% of the OLs and 11% of the GPs; the Louisville area had 16% of each group; and the Appalachian region had 27% of the OLs and 28% of the GPs. The regional differences are small enough to be attributable to expected sampling error.

Similarly, the two samples were not significantly different with regard to the types of communities in which the respondents live. The same proportion of OLs and GPs (23%) live in cities, in suburbs (11%), or in rural nonfarm settings (15%). Of the OLs, 38% live in small towns compared to 35% of GPs. Rural farms are the residential setting for 14% of OLs and 16% of GPs. The differences in residential setting are small enough to be attributable to chance.

The racial composition of the two samples is significantly different. Whites make up 99% of the opinion leaders compared to 93% of the general population. (Chi-square = 10.21, df = 1, $p < .001$).

The religious preferences of the two samples are slightly different. Southern Baptists made up 26 percent of the OL sample compared to 31% of the GP sample. Other baptists made up 10% of the OL sample compared to 8% of the GP sample. Persons with no religious preference made up 7% of the OL sample compared to 10% of the GP sample. Catholics made up 10% of the OL sample and 15% of the GP sample. "High church" protestants (Episcopal, Lutheran, Congregationalist, and Presbyterian) made up 13% of the OL sample and 6% of the GP sample. "Low church" protestants (Methodists, Disciples of Christ, Christian, Church of God, Church of Christ, Nazarene, Pentecostal, and Assemblies of God) make up 32% of the opinion leader sample and 27% of the general population sample. Nondenominational protestants make up 1% of the OL sample and 3% of the GP sample.

The strength of religious identification for two samples was not significantly different. Of the OLs, 44% identified very strongly with their religious group (if any) compared to 47% in the GP sample. Only 4% of OLs and 5% of GPs indicated that they identify with their preferred religious group "very weakly."

The proportion of respondents who are currently married is significantly higher among the OLs (87%) when compared to the GPs (61%). (Chi-square = 49.86, df = 4, p < .001.) However, the GP respondents are significantly more likely to have school age children in their homes (61%) than are the OLs (51%). (Chi-square = 6.65, df = 1, p < .01.) When one looks at the number of school age children in the homes of each sample, there is no statistically difference between the average of 0.8 for the OLs and 0.7 for the GPs.

The two samples were significantly different with regard to the number of years of school completed. The average for the general population was 12.7 years, compared to an average for the OLs of 16.4 years (t=14.9, df = 373 (unequal variances), p < .0001).

As might be expected, the total annual incomes for the two samples are significantly different. The average for the OLs was in the $40-50,000 response category, while the average for the GPs was about halfway between the $20-25,000 and the $25-30,000 response categories. (The t-test of the statistical significance of the difference between these means returned a statistic of 17.90, df = 325 (unequal variances) and a probability of less than .0001.)

The occupational histories of the two samples was different. Ninety percent of the GPs had never been employed as teachers, compared to 57% of the OLs. (Chi-square = 117.89, df = 3, p < .0001.) Of the opinion leaders, 43% presently or formerly were employed as teachers, compared to 10% of the GP respondents.

Each respondent was asked how often they encounter or deal with new high school graduates. The OLs said "daily" 35% of the time, compared to 27% of the GP sample. The difference is not statistically significant.

Overall Rating of Education in Kentucky

The overall rating of education in Kentucky is not very good. Only 3.8% of all respondents indicated that they thought it is excellent, whereas 34.9% said it is good. "Fair" was the answer of 43.4% of respondents, and 17.9% said it is poor. The responses were coded so that "excellent" was given a value of 1, "good" a value of 2, "fair" a value of 3, and "poor" a value of 4. Table 2 shows the mean values of the overall rating of education in Kentucky for various subsets of the sample. The lower the mean value reported, the better the overall rating.

There were no statistically significant differences in the average overall ratings of education in Kentucky with regard to the number of years lived in Kentucky, the frequency with which respondents encounter new high school graduates, region of the state, marital status, race, religious preference, total household income, or sex. Respondents from the GP sample gave more positive ratings than respondents from the OL sample. Among the OL subsamples there were significant differences with school board chairs, school superintendents, and PTA leaders giving the highest ratings and Prichard Committee members and community college faculty the lowest.

As the respondent age increased the rating of education in Kentucky became less favorable. Persons with school age children in the home gave more favorable ratings than those without.

Generally, respondents with more years of school gave education in Kentucky less favorable ratings, though high school graduates were somewhat more favorable than those who have fewer than 12 years of school. Persons with strong religious identification rate education in Kentucky substantially more favorably than those with weak religious identification. Persons who have ever been teachers gave education in Kentucky poorer ratings than persons who have never taught.

Table 2. Mean Overall Ratings of Education in Kentucky.

	n	mean	test of significance	probability
Sample				
Opinion Leader	196	2.86	t = 2.19	.03
General Population	620	2.72		
Opinion Leader Subsamples				
Business Executives	22	2.86	F = 6.82	.0001
Chamber of Commerce	22	2.86		
Employment Counselors	20	2.90		
School Board Chair	21	2.38		
School Superintendent	21	2.52		
PTA Leader	22	2.54		
Prichard Committee	23	3.70		
College Faculty	23	3.04		
State Legislator	20	2.85		
Years Lived in Kentucky				
1-20 years	147	2.86	F = 2.60	ns
21-40 years	296	2.71		
41-60 years	235	2.68		
60 or more years	136	2.85		
How often do you encounter new high school graduates?				
Daily	231	2.84	F = 1.81	ns
A few times a week	240	2.68		
A couple of times a mo.	169	2.79		
A few times a year	154	2.73		
Region				
Appalachia	229	2.80	F = 1.94	ns
Central	180	2.78		
Louisville area	130	2.84		
Northern	79	2.66		
Western	186	2.64		
Age Category				
Under 35	216	2.63	F = 3.40	.02
35-44	195	2.73		
45-54	169	2.82		
55 or older	234	2.84		
Marital Status				
Married	541	2.78	F = 0.67	ns
Not married	266	2.73		
School aged child in home?				
No	472	2.82	F = 10.32	.001
Yes	337	2.65		

Table 2 continued

Race				
Nonwhite	46	2.54	F = 3.50	ns
White	768	2.77		
Education Category				
11 or fewer years	153	2.71	F = 5.57	.0002
12 years	248	2.59		
13-15 years	157	2.82		
16 years	98	2.84		
over 16 years	158	2.93		
Religious Preference				
Catholic	110	2.80	F = 2.04	ns
"Low church" protestant	223	2.77		
"High church" protestant	60	2.93		
Nondenominational prot	21	2.90		
Southern Baptist	236	2.67		
Other Baptist	65	2.57		
No religious preference	74	2.86		
Strength of Religious Identification (if any)				
Very strong	336	2.69	F = 6.95	.0001
Somewhat strong	260	2.65		
Somewhat weak	100	3.01		
Very weak	32	3.03		
Total Household Income				
<$5,000	21	2.86	F = 1.68	ns
$5,000-10,000	71	2.65		
$10,000-15,000	62	2.65		
$15,000-20,000	61	2.87		
$20,000-25,000	65	2.68		
$25,000-30,000	86	2.73		
$30,000-40,000	128	2.66		
$40,000-50,000	86	2.70		
$50,000 or more	177	2.90		
Have you ever been a teacher?				
No	625	2.72	F = 4.21	.04
Yes	189	2.86		
Sex				
Female	410	2.71	F = 2.47	ns
Male	403	2.80		

How High School Graduates in Kentucky Have Changed

Respondents were asked "How have high school graduates changed in the last five years? Would you say they have gotten better, gotten worse, or are about the same?" Of 777 respondents who had an opinion, 25.0% said they had gotten worse, 41.7 said they were about the same, and 33.3% said they had gotten better. Responses were coded so that "gotten worse" was given a value of 1, "about the same" a value of 2, and "gotten better" a value of 3. Table 3 shows the mean values of these ratings of how high school graduates have changed in the last five years. The higher the number, the more favorable the rating of the change.

There were no statistically significant differences in the perception of how high school graduates have changed with regard to the respondent's number of years lived in Kentucky, frequency of contact with new high school graduates, region of the state, age category, marital status, race, education category, strength of religious identification, total household income, experience as a teacher, or sex.

Opinion leaders judged the change more favorably than did members of the general population sample. There were also statistically significant differences among OL subsamples, with school board chairs and school superintendents giving the most favorable estimates of change and college faculty and employment counselors the least favorable.

Respondents with a school age child in their home rated changes of high school graduates more favorably than those without. Religious preference was significantly related to the perception of change, with "low church" protestants and Baptists rating the change most favorably and nondenominational protestants and persons with no religious preference rating the change least favorably.

Table 3. Mean Responses to "How have high school graduates changed in the last five years? Would you say they have gotten better, gotten worse, or are about the same?"

	n	mean	test of significance	probability
Sample				
Opinion Leader	192	2.24	F = 11.64	.0007
General Population	585	2.03		
Opinion Leader Subsamples				
Business Executives	22	2.18	F = 2.96	.002
Chamber of Commerce	22	2.36		
Employment Counselors	19	1.95		
School Board Chair	22	2.54		
School Superintendent	21	2.50		
PTA Leader	20	2.20		
Prichard Committee	23	2.18		
College Faculty	23	1.91		
State Legislator	20	2.35		
Years Lived in Kentucky				
1-20 years	147	2.14	F = 1.09	ns
21-40 years	284	2.04		
40-60 years	237	2.14		
61 or more years	124	2.03		
How often do you encounter new high school graduates?				
Daily	224	2.06	F = 0.13	ns
A few times a week	237	2.10		
A couple of times a mo.	161	2.10		
A few times a year	145	2.08		
Region				
Appalachia	221	2.09	F = 2.27	ns
Central	170	2.15		
Louisville area	121	1.93		
Northern	72	1.97		
Western	183	2.14		
Age Category				
Under 35	209	2.14	F = 0.87	ns
35-44	183	2.05		
45-54	165	2.12		
55 or older	220	2.04		
Marital Status				
Married	528	2.12	F = 3.85	ns
Not married	243	2.01		
School aged child in home?				
No	449	2.04	F = 4.16	.04
Yes	326	2.15		

Table 3 continued

Race				
Nonwhite	43	2.23	F = 1.75	ns
White	734	2.07		
Education Category				
11 or fewer years	142	1.98	F = 1.33	ns
12 years	236	2.11		
13-15 years	154	2.14		
16 years	94	2.01		
over 16 years	151	2.14		
Religious Preference				
Catholic	104	2.05	F = 2.39	.03
"Low church" protestant	212	2.18		
"High church" protestant	58	1.97		
Nondenominational prot	17	1.82		
Southern Baptist	232	2.12		
Other Baptist	65	2.18		
No religious preference	67	1.87		
Strength of Religious Identification (if any)				
Very strong	322	2.11	F = 1.85	ns
Somewhat strong	253	2.16		
Somewhat weak	96	1.98		
Very weak	31	1.94		
Total Household Income				
<$5,000	20	1.95	F = 0.87	ns
$5,000-10,000	65	2.02		
$10,000-15,000	62	2.06		
$15,000-20,000	62	2.02		
$20,000-25,000	61	2.21		
$25,000-30,000	80	2.09		
$30,000-40,000	121	2.07		
$40,000-50,000	84	2.02		
$50,000 or more	173	2.18		
Have you ever been a teacher?				
No	595	2.08	F = 0.01	ns
Yes	182	2.09		
Sex				
Female	376	2.03	F = 3.42	ns
Male	400	2.13		

Importance of Areas of Instruction

Respondents were asked to indicate the importance of specific instructional skills or knowledge in terms of the proportion of high school graduates who should have mastered the skill or knowledge. The response options were coded as follows: "nearly all" = 1; "two-thirds" = 2; "one-third" = 3; "less than one-third" = 4; "not important to anyone" (volunteered) = 5. The specific skills or knowledge were grouped into eleven areas of instruction. For each area a score indicating the importance of the area was the sum of the scores for the specific items in that area divided by the number of items.

Table 4a-n shows the averages for each area on these eleven scales. The lower the number, the greater the importance attached to that area in terms of the proportion of students who should have mastered skills and knowledge in that area. It is emphasized that "importance" in the context of these scales refers to the proportion of graduates who should have mastered skills and knowledge in these areas. There are other ways in which an area might be considered important which are not addressed here.

Table 4a compares the OL and GP respondents. OL respondents assigned the greatest importance to Q9SCAL (understanding human behavior, self-esteem, relating to others, becoming a responsible individual) and to Q11SCAL (personal finances, household management, parenting, and family responsibility). The GP respondents identified the same two areas of instruction as most important, though in reverse order. Least important for both the

OLs and GPs were Q5SCAL (being able to use computers and technology) and Q8SCAL (history, literature, the arts, languages, and geography).

OL respondents gave higher ratings than GP respondents on nine of the eleven scales. There were statistically significant differences with regard to Q3SCAL (basic reading, writing, speaking, and math skills), Q4SCAL (learning how to think and solve problems), Q6SCAL (government, politics, and economics), Q9SCAL (human behavior, self-esteem, relating to others, becoming a responsible individual), and Q12SCAL (health and fitness, including drug and alcohol education). On all five of these areas, the importance attributed by the OLs was significantly higher than that attributed by the GPs.

Table 4a1 compares the nine OL subsample (SS) ratings of the eleven instructional areas. Statistically significant differences among the SSs were found for three areas. For Q7SCAL (science, our environment, and the work of scientists) the highest ratings were given by school superintendents (SS8x) and by Chamber of Commerce leaders (SS1x). The lowest ratings were given by school board chairs (SS7x) and business executives (SS2x). For the area Q8SCAL (history, literature, the arts, languages, and geography) the highest ratings were given by PTA leaders (SS6x) and Prichard Committee members (SS5x). The lowest ratings were given by employment counselors and personnel managers (SS4x) and by school board chairs (SS7x). For the area Q9SCAL (human behavior, self-esteem, relating to others, becoming a responsible individual) the highest ratings were given by school superintendents (SS8x) and the lowest by state legislators (SS9x).

Table 4b shows the rating of eleven instructional areas by the number of years the respondent has lived in Kentucky. The differences among the mean ratings were statistically significant for ten of the eleven areas, with the importance attributed to these areas generally declining as the number of years in Kentucky increases. (A similar pattern appears when comparisons are made by age category; see Table 4f.) The only area for which statistically significant differences were not observed was Q5SCAL (being able to use computers and technology), which was also the lowest rated area regardless of the number of years in Kentucky.

Table 4c shows the ratings of the different instructional areas by the frequency with which the respondent encounters new high school graduates. None of the areas had statistically significant differences with regard to this variable.

Table 4d shows the ratings of the eleven instruction areas by the region of the state in which the respondent resides. None of the differences in means by region were statistically significant.

Table 4e shows the differences among the mean ratings of the eleven areas by marital status. On nine of the eleven areas married respondents gave higher ratings than unmarried respondents. In four instances these differences were statistically significant: Q3SCAL (basic reading, writing, speaking, and math skills); Q6SCAL (government, politics, and economics); Q10SCAL (work, employment, and earning a living); and

Q11SCAL (personal finances, household management, parenting, and family responsibility).

Table 4f shows the differences among the ratings of the eleven instructional areas by age category. Statistically significant differences were found for eight of the eleven areas. For all eight, the ratings of importance declined as age declined.

Table 4g shows the mean ratings based on whether or not there is a school age child in the home of the respondent. Statistically significant differences were observed for six of the eleven areas. In each instance, the importance of an area was higher if there was a school-age child in the home of the respondent.

Table 4h shows the mean ratings of the eleven instructional areas by the number of years of school completed by the respondent. The differences among the ratings were statistically significant for six areas. For all of these areas except one, the importance increased with education. The single exception was Q5SCAL (being able to understand and use computers and technology), which decreased in importance as the education of the respondent increased.

Table 4i shows the mean ratings of the eleven instructional areas by race. Only one of the areas was observed to have a statistically significant difference. For Q12SCAL (health and fitness, including drug and alcohol education) whites attributed significantly greater importance than nonwhites.

Table 4j shows the mean ratings of the eleven instructional areas by religious preference. None of the areas were found to be significantly different with regard to religious preference.

Table 4k shows the mean ratings of importance by the strength of religious identification. Significant differences were observed for the areas Q4SCAL (learning how to think and solve problems) and Q9SCAL (human behavior, self-esteem, relating to others, becoming a responsible individual). In neither case is the relationship linear, though those with the weakest religious identification gave the lowest rating of importance in both instances.

Table 4l shows the mean ratings of eleven instructional areas by income category. Statistically significant differences were observed for eight of the eleven areas. For each of these eight areas the rating of importance increased with income.

Table 4m compares the mean ratings of the eleven instructional areas for those who had ever been a teacher and those who had not. Those with teaching experience gave significantly higher ratings to two areas: Q6SCAL (government, politics, and economics) and Q9SCAL (human behavior, self-esteem, relating to others, becoming a responsible individual).

Table 4n shows the differences between female and male respondents in their ratings of eleven instructional areas. Statistically significant differences were observed for seven of the eleven areas. In each instance for the statistically significant differences (and for all eleven areas regardless of statistical significance) females attributed greater importance than males.

Table 4. Mean Ratings of Instructional Area Scales.

a. Sample	Opinion Leader	General Population	F
Q3SCAL	1.47	1.57	4.96*
Q4SCAL	1.39	1.50	6.02*
Q5SCAL	2.29	2.19	3.09
Q6SCAL	1.65	1.80	7.59*
Q7SCAL	1.96	1.89	1.63
Q8SCAL	2.03	2.09	1.21
Q9SCAL	1.23	1.38	14.49*
Q10SCAL	1.41	1.46	1.10
Q11SCAL	1.24	1.32	3.46
Q12SCAL	1.27	1.40	10.52*
Q13SCAL	1.38	1.46	3.16

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

a1. Opinion leader subsamples (SS)

	SS1x	SS2x	SS3x	SS4x	SS5x	SS6x	SS7x	SS8x	SS9x	F
Q3SCAL	1.60	1.48	1.38	1.58	1.38	1.31	1.50	1.47	1.50	0.77
Q4SCAL	1.39	1.49	1.36	1.55	1.38	1.14	1.54	1.35	1.30	1.92
Q5SCAL	2.32	2.30	2.29	2.45	2.28	1.89	2.29	2.45	2.37	1.47
Q6SCAL	1.70	1.76	1.55	1.74	1.63	1.45	1.89	1.43	1.72	1.47
Q7SCAL	1.90	2.13	1.96	2.00	1.99	1.54	2.17	1.88	2.07	2.28*
Q8SCAL	2.16	2.07	2.05	2.25	1.89	1.57	2.27	1.98	2.05	3.09*
Q9SCAL	1.21	1.27	1.16	1.17	1.19	1.09	1.51	1.11	1.34	2.90*
Q10SCAL	1.43	1.41	1.41	1.33	1.44	1.24	1.77	1.33	1.33	1.94
Q11SCAL	1.25	1.19	1.24	1.28	1.22	1.11	1.49	1.16	1.23	1.05
Q12SCAL	1.26	1.27	1.28	1.25	1.29	1.11	1.40	1.24	1.30	0.81
Q13SCAL	1.41	1.46	1.32	1.43	1.43	1.09	1.49	1.30	1.53	1.87

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

SS1x = Chamber of Commerce Leader
SS2x = Business Executive
SS3x = College Faculty
SS4x = Employment Counselor or Personnel Manager
SS5x = Prichard Committee Member
SS6x = PTA Leader
SS7x = School Board Chair
SS8x = School Superintendent
SS9x = State Legislator

*probability of F is less than .05

Table 4 continued

b. Years Lived in Kentucky

	1-20 years	21-40 years	41-60 years	61 + years	F
Q3SCAL	1.50	1.51	1.53	1.69	3.53*
Q4SCAL	1.38	1.37	1.50	1.76	17.70*
Q5SCAL	2.19	2.23	2.23	2.21	0.13
Q6SCAL	1.64	1.73	1.79	1.90	4.08*
Q7SCAL	1.83	1.82	2.01	2.01	6.41*
Q8SCAL	1.95	2.08	2.13	2.12	2.83*
Q9SCAL	1.26	1.27	1.34	1.61	18.71*
Q10SCAL	1.37	1.37	1.50	1.63	8.85*
Q11SCAL	1.27	1.23	1.31	1.49	7.99*
Q12SCAL	1.31	1.32	1.38	1.55	7.14*
Q13SCAL	1.39	1.37	1.47	1.66	8.69*

c. How often do you encounter new high school graduates?

	Daily	Few/ week	1-2/ month	Few/ year	F
Q3SCAL	1.54	1.48	1.56	1.60	1.47
Q4SCAL	1.45	1.45	1.46	1.54	1.01
Q5SCAL	2.22	2.17	2.32	2.20	1.68
Q6SCAL	1.75	1.71	1.77	1.84	1.30
Q7SCAL	1.89	1.84	1.98	1.97	2.22
Q8SCAL	2.05	2.04	2.14	2.11	1.01
Q9SCAL	1.34	1.32	1.32	1.37	0.41
Q10SCAL	1.43	1.42	1.47	1.48	0.53
Q11SCAL	1.28	1.26	1.35	1.34	1.40
Q12SCAL	1.37	1.35	1.38	1.41	0.44
Q13SCAL	1.44	1.42	1.45	1.47	0.22

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

d. Region

	Appal	Centr	Louis	North	Westr	F
Q3SCAL	1.61	1.52	1.51	1.54	1.51	1.29
Q4SCAL	1.52	1.48	1.42	1.47	1.44	0.87
Q5SCAL	2.16	2.24	2.23	2.28	2.23	0.65
Q6SCAL	1.76	1.72	1.78	1.82	1.77	0.38
Q7SCAL	1.92	1.96	1.85	1.91	1.90	0.75
Q8SCAL	2.06	2.04	2.03	2.10	2.14	0.95
Q9SCAL	1.38	1.32	1.30	1.39	1.34	0.95
Q10SCAL	1.48	1.49	1.39	1.43	1.43	0.97
Q11SCAL	1.32	1.33	1.27	1.36	1.27	0.73
Q12SCAL	1.40	1.36	1.38	1.34	1.36	0.40
Q13SCAL	1.48	1.46	1.41	1.53	1.40	1.20

e. Marital Status

	Marr.	Sing.	F
Q3SCAL	1.50	1.63	8.51*
Q4SCAL	1.45	1.52	2.59
Q5SCAL	2.19	2.28	2.61
Q6SCAL	1.72	1.85	7.22*
Q7SCAL	1.93	1.87	1.71
Q8SCAL	2.09	2.04	1.06
Q9SCAL	1.32	1.38	2.92
Q10SCAL	1.42	1.50	4.01*
Q11SCAL	1.26	1.38	8.54*
Q12SCAL	1.35	1.40	1.75
Q13SCAL	1.43	1.47	0.77

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

f. Age category

	< 35	35-44	45-54	55 +	F
Q3SCAL	1.49	1.49	1.53	1.66	4.62*
Q4SCAL	1.33	1.40	1.49	1.65	14.43*
Q5SCAL	2.20	2.06	2.29	2.19	0.81
Q6SCAL	1.74	1.70	1.75	1.84	1.73
Q7SCAL	1.79	1.88	2.02	1.96	5.74*
Q8SCAL	2.04	2.04	2.15	2.09	1.19
Q9SCAL	1.26	1.29	1.31	1.49	10.33*
Q10SCAL	1.35	1.38	1.48	1.58	7.72*
Q11SCAL	1.24	1.25	1.30	1.42	5.70*
Q12SCAL	1.31	1.34	1.34	1.48	4.57*
Q13SCAL	1.31	1.42	1.47	1.58	9.43*

g. School age child in home?

	No	Yes	F
Q3SCAL	1.57	1.52	1.55
Q4SCAL	1.52	1.40	9.56*
Q5SCAL	2.23	2.20	0.49
Q6SCAL	1.80	1.71	4.22*
Q7SCAL	1.94	1.86	3.68
Q8SCAL	2.11	2.03	3.18
Q9SCAL	1.39	1.28	9.11*
Q10SCAL	1.49	1.39	7.38*
Q11SCAL	1.35	1.24	7.98*
Q12SCAL	1.40	1.34	2.65
Q13SCAL	1.49	1.39	5.62*

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

	h. Education Category (years)						i. Race		
	<= 11	12	13-15	16	17+	F	Nonwh	White	F
Q3SCAL	1.72	1.58	1.48	1.47	1.46	5.84*	1.56	1.54	0.04
Q4SCAL	1.66	1.50	1.39	1.44	1.38	6.68*	1.52	1.47	0.31
Q5SCAL	2.13	2.14	2.18	2.30	2.28	4.23*	2.08	2.23	1.82
Q6SCAL	1.89	1.87	1.68	1.68	1.61	6.49*	1.87	1.75	1.20
Q7SCAL	1.92	1.90	1.86	1.96	1.92	0.43	1.76	1.92	2.91
Q8SCAL	2.09	2.15	2.01	2.06	2.02	1.49	1.91	2.09	3.47
Q9SCAL	1.53	1.40	1.27	1.24	1.22	11.97*	1.42	1.34	1.30
Q10SCAL	1.56	1.44	1.41	1.36	1.46	2.31	1.39	1.45	0.47
Q11SCAL	1.38	1.34	1.24	1.23	1.28	2.40*	1.38	1.30	1.17
Q12SCAL	1.51	1.43	1.28	1.30	1.29	6.69*	1.56	1.36	6.73*
Q13SCAL	1.52	1.45	1.37	1.45	1.43	1.42	1.48	1.44	0.25

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

j. Religious Preference

	Catholic	LowProt	HighProt	NonProt	South. Bapt.	Other Bapt.	None	F
Q3SCAL	1.56	1.54	1.54	1.56	1.52	1.54	1.66	0.63
Q4SCAL	1.46	1.51	1.33	1.63	1.47	1.45	1.50	1.20
Q5SCAL	1.30	2.19	2.21	2.29	2.20	2.18	2.30	0.60
Q6SCAL	1.78	1.74	1.70	1.82	1.77	1.78	1.79	0.21
Q7SCAL	1.97	1.91	1.84	1.93	1.87	1.92	1.96	0.58
Q8SCAL	2.07	2.07	2.05	1.96	2.10	2.07	2.10	0.24
Q9SCAL	1.33	1.35	1.25	1.36	1.33	1.37	1.41	0.71
Q10SCAL	1.42	1.47	1.50	1.42	1.41	1.33	1.61	1.88
Q11SCAL	1.31	1.34	1.29	1.26	1.27	1.26	1.33	0.54
Q12SCAL	1.27	1.33	1.38	1.38	1.40	1.30	1.44	0.82
Q13SCAL	1.45	1.50	1.43	1.58	1.39	1.34	1.54	1.82

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

k. Strength of Religious Identification

	Very Strong	Somewhat Strong	Somewhat Weak	Very Weak	F
Q3SCAL	1.54	1.52	1.49	1.75	2.06
Q4SCAL	1.51	1.43	1.38	1.65	3.35*
Q5SCAL	2.20	2.21	2.27	2.36	0.80
Q6SCAL	1.78	1.74	1.77	1.79	0.22
Q7SCAL	1.92	1.88	1.97	1.92	0.59
Q8SCAL	2.06	2.04	2.15	2.31	2.26
Q9SCAL	1.36	1.31	1.26	1.56	3.76*
Q10SCAL	1.46	1.40	1.39	1.58	1.56
Q11SCAL	1.32	1.27	1.32	1.40	0.82
Q12SCAL	1.38	1.36	1.31	1.42	0.66
Q13SCAL	1.46	1.40	1.39	1.64	2.46

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

1. Total Household income (thousands of dollars)

	less than 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	40 to 50	over 50	F
Q3SCAL	2.06	1.60	1.69	1.60	1.46	1.50	1.43	1.51	1.55	3.65*
Q4SCAL	1.81	1.58	1.70	1.54	1.46	1.38	1.34	1.37	1.47	4.81*
Q5SCAL	2.44	2.12	2.20	2.17	2.21	2.13	2.15	2.35	2.33	1.82
Q6SCAL	2.09	1.84	1.87	1.83	1.86	1.61	1.61	1.72	1.72	2.35*
Q7SCAL	2.04	1.78	2.01	1.88	1.94	1.84	1.82	1.89	2.01	1.99*
Q8SCAL	2.34	1.97	2.14	2.06	2.18	1.96	2.08	2.11	2.07	1.40
Q9SCAL	1.78	1.48	1.50	1.40	1.38	1.28	1.23	1.32	1.26	5.96*
Q10SCAL	1.78	1.48	1.53	1.44	1.46	1.43	1.35	1.43	1.45	1.68
Q11SCAL	1.63	1.40	1.30	1.31	1.32	1.26	1.22	1.28	1.28	2.02*
Q12SCAL	1.81	1.43	1.50	1.41	1.39	1.43	1.27	1.35	1.30	3.93*
Q13SCAL	1.84	1.46	1.53	1.43	1.49	1.42	1.31	1.43	1.46	2.54*

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Table 4 continued

	m. Have you ever been a teacher?			n. Sex		
	Yes	No	F	Female	Male	F
Q3SCAL	1.48	1.56	3.81	1.51	1.57	2.25
Q4SCAL	1.42	1.49	2.02	1.43	1.51	3.97*
Q5SCAL	2.26	2.21	0.92	2.11	2.33	21.37*
Q6SCAL	1.66	1.79	5.84*	1.75	1.77	0.21
Q7SCAL	1.90	1.91	0.04	1.84	1.98	10.53*
Q8SCAL	2.02	2.09	1.84	1.98	2.17	17.41*
Q9SCAL	1.23	1.38	14.07*	1.31	1.38	4.53*
Q10SCAL	1.44	1.45	0.01	1.42	1.48	2.41
Q11SCAL	1.29	1.31	0.19	1.29	1.32	0.52
Q12SCAL	1.31	1.39	2.95	1.33	1.41	4.09*
Q13SCAL	1.44	1.45	0.00	1.41	1.48	4.10*

Q3SCAL = basic reading, writing, speaking, and math skills
Q4SCAL = learning how to think and solve problems
Q5SCAL = being able to understand and use computers and technology
Q6SCAL = government, politics, and economics
Q7SCAL = science, our environment, and the work of scientists
Q8SCAL = history, literature, the arts, languages, and geography
Q9SCAL = human behavior, self-esteem, relating to others, becoming a responsible individual
Q10SCAL = work, employment, and earning a living
Q11SCAL = personal finances, household management, parenting, and family responsibility
Q12SCAL = health and fitness, including drug and alcohol education
Q13SCAL = ability to learn on one's own, set and achieve goals, self-discipline, defend one's beliefs, adaptability

*probability of F is less than .05

Importance of Areas of Instruction--Part 2

Respondents were asked to indicate the importance of nine different areas of instruction by following these instructions:

> For the last few minutes, we have been talking about outcomes associated with 10 important areas of instruction. Now I would like to ask you about these those areas themselves. There are 1000 hours of instruction in one year for a Kentucky high school student. If each of the 10 areas of instruction were equally important, 100 hours would be available for each. However, they are not all equal in importance. Some should receive more hours and others less.
>
> One of the areas is LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS. Let's say that it is roughly of average importance and therefore would be allotted 100 of instruction for this year. For each of the other areas, tell me the number of hours that you think should be allotted.
>
> If you think that it is MORE important than LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS, you should allow more than 100 hours for it.
>
> If an area is LESS important than LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS, you should allow fewer hours for it. First, what about...

The actual number of hours mention was recorded. Since respondents could not be asked to be sure the sum of their responses plus the 100 hours for the "anchor" area added up to 1000 hours, their responses on the nine areas were adjusted in the analysis so that they do add to this sum. The list of nine areas had a randomly designated starting point and direction for each respondent in order to reduce order and sequence effects. The eleventh area from the first part of the survey which referred to adaptability was not included in the section on allocation of hours for instruction.

Table 4Aa-n shows the average number of hours (adjusted) allocated to each of the nine areas. The higher the number, the greater the time resource invested in instruction for that area. (Slight differences in the sum of hours from 1000 are due to cases omitted from the calculation of means due to missing data on one or more variables. These small differences do not have a significant influence on the results.)

Table 4Aa compares the OL and GP respondents. Both sets of respondents assigned the most hours to Q14E (basic reading, writing, speaking, and math skills). Receiving fewest hours from the OLs was the area Q14F (personal finance, household management, parenting, and family responsibility), whereas the GPs gave the fewest hours to Q14A (science, our environment, and the work of scientists). Compared to the GP respondents, the OLs gave significantly more hours to Q14a (science, our environment, and the work of scientists), Q14E (basic reading, writing, speaking, and math skills), and Q14I (history, literature, the arts, languages, and geography). The OLs gave significantly fewer hours to Q14B (human behavior, self-esteem, relating to others, becoming a responsible individual) Q14D (work, employment, and earning a living), Q14F (personal finances, household management, parenting, and family responsibility) and Q14H (health and fitness, including drug and alcohol education).

Table 4Aa1 compares the nine OL subsample (SS) allocation of hours to the nine areas. Statistically significant differences among the SSs were found for three areas. For Q14C (being able to understand and use computers and technology) the largest number of hours were allotted by Chamber of Commerce Leaders (SS1x) and employment counselors or personnel managers (SS4x). The lowest number of hours was allocated by Prichard Committee members (SS5x) and state legislators (ss9x). For the area Q14D (work, employment, and earning a living) the largest number was allocated by employment counselors or personnel managers (SS4x) and by school board chairs (ss7x). The lowest number was assigned by Prichard Committee members (SS5x) and by college faculty (SS3x). For the area Q14E (basic reading, writing, speaking, and math skills) the most hours were allowed by school superintendents (SS8x) and Prichard Committee members (SS5x) and the least by school board chairs (Ss7x).

Table 4Ab shows the average number of hours allocated to the nine instructional areas by the number of years the respondents have lived in Kentucky. Clear linear patterns are not apparent, but statistically significant differences were found for the areas Q14B (human behavior, self-esteem, relating to others, becoming a responsible individual), Q14E (basic reading, writing, speaking, and math skills), Q14H (health and fitness including drug and alcohol education), and Q14I (history, literature, the arts, languages, and geography).

Table 14Ac indicates that for none of the nine areas of instruction is the frequency with which the respondent encounters new high school graduates significantly related to the allocation of hours for instruction.

Table 4Ad indicates that the region of the state in which a respondent resides is related to the number of hours allocated to only two of the areas. For Q14C (being able to understand and use computers and technology) persons from Appalachia allocated the most hours and those from central Kentucky allocated the fewest. For Q14H (health and fitness including drug and alcohol education) Appalachian respondents allocated the largest number of hours whereas respondents from northern Kentucky allocated the fewest.

Table 4Ae indicates that marital status is not significantly related to the number of hours allocated for any of the nine areas.

Table 4Af shows that for Q4E (basic reading, writing, speaking, and math skills) there is a curvilinear relationship with older and younger persons allocating fewer hours for instruction in this area than persons in the middle age categories. A nonlinear but statistically significant set of differences exist for Q14I (history, literature, the arts, languages, and geography) also.

Table 4Ag shows that for none of the areas does the presence of a school age child in the home have a statistically significant relationship with the number of hours allocated for instruction.

Table 4Ah shows that the number of years of schooling is significantly associated with how many hours are allocated to several of the areas of instruction. For Q14A (science, our environment, and the work of scientists) there is a curvilinear relationship with persons with less than high school education or graduate study allocating more hours than those in proximal categories of education. For Q14E (basic reading, writing, speaking, and math skills) and Q14I (history, literature, the arts, languages, and geography) persons with more years of school allocate more hours of instruction than those with less education. For Q14B (human behavior, self-esteem, relating to others, becoming a responsible individual), Q14C (being able to understand and use computers and technology), Q14F (personal finances, household management, parenting, and family responsibility), and Q14H (health and fitness including drug and alcohol education), those with fewer years of school allocated more hours of instruction.

Table 4Ai shows that whites and nonwhites did not differ significantly in their allocation of hours of instruction to any of the areas rated.

Table 4Aj shows that religious preference was associated with the way in which hours were allocated for two areas. For Q14H (health and fitness including drug and alcohol education) "other" baptists allotted the largest number of hours while catholics and persons with no religious preference allowed the least for this area. For Q14I (history, literature, the arts, languages, and geography) "high" protestants such as presbyterians and episcopalians gave the largest number of hours whereas nondenominational protestants gave the fewest.

Table 4Ak shows the relationship between the strength of religious identification and the hours allocated to the nine different areas of instruction. For Q14A (science, our environment, and the work of scientists, there are nonlinear but statistically significant differences in the mean number of hours allocated. For Q14C (being able to understand and use computers and technology) those with stronger religious identification allotted fewer hours than those with weaker identification. For Q14G (learning how to think and solve problems) a curvilinear relationship exists. Those with very strong or very weak religious identification allocate the fewest hours to this area, while those with more moderate levels of identification allocated the most.

Table 4Al shows that total household income is related to the way in which hours were allocated to three of the areas. For Q14D (work, employment, and earning a living) the number of hours allocated generally was lower for persons in higher income categories. For Q14E (basic reading, writing, speaking, and math skills) the hours allowed increased significantly with family income. For Q14H (health and fitness including drug and alcohol education) those with higher income generally allotted fewer hours for instruction in this area.

Table 4Am shows that experience as a teacher makes a significant difference in how hours are allocated for seven of the nine areas. Teachers allocated more hours than nonteachers for Q14A (science, our environment, and the work of scientists), Q14E (basic reading, writing, speaking, and math skills), and Q14I (history, literature, the arts, languages, and geography). Those with teaching experience allocated fewer hours to Q14C (being able to understand and use computers and technology), Q14D (work, employment, and earning a living), Q14F (personal finances, household management, parenting, and family responsibility), and Q14H (health and fitness including drug and alcohol education).

Table 4An shows that for only one area did men and women differ significantly in their allocation of hours. For Q14A (science, our environment, and the work of scientists) men allotted more hours than women.

Table 4A. Mean Number of Hours Allocated for Each Instructional Area.

a. Sample	Opinion Leader	General Population	F
Q14A	91.9	86.1	4.75*
Q14B	93.3	98.9	4.29*
Q14C	87.1	91.4	2.90
Q14D	93.8	105.0	19.20*
Q14E	154.2	130.5	34.48*
Q14F	88.3	99.3	19.19*
Q14G	99.6	98.3	0.28
Q14H	90.1	98.8	10.57*
Q14I	98.0	88.0	13.69*
Q14J	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

a1. Opinion leader subsamples (SS)

	SS1x	SS2x	SS3x	SS4x	SS5x	SS6x	SS7x	SS8x	SS9x	F
Q14A	94.3	94.5	101.7	90.0	97.0	71.7	92.8	87.5	98.4	1.74
Q14B	97.4	102.1	98.6	86.3	84.7	92.8	95.7	91.0	90.1	0.98
Q14C	102.7	85.4	76.2	97.0	80.4	92.0	94.5	73.0	82.9	2.27*
Q14D	90.8	101.5	85.7	104.5	68.8	96.0	103.4	97.4	97.4	2.57*
Q14E	141.3	145.5	162.3	160.1	172.2	164.4	121.3	179.2	141.5	2.22*
Q14F	90.7	90.6	71.9	90.9	76.5	90.5	94.7	92.4	97.7	1.90
Q14G	90.4	96.2	103.9	94.6	117.4	91.5	97.4	99.6	96.5	1.25
Q14H	91.7	98.1	86.6	87.0	79.7	99.3	98.1	85.3	83.6	1.32
Q14I	89.6	82.2	108.7	86.0	118.7	98.9	98.0	91.2	108.4	2.37*
Q14J	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

SS1x = Chamber of Commerce Leader
SS2x = Business Executive
SS3x = College Faculty
SS4x = Employment Counselor or Personnel Manager
SS5x = Prichard Committee Member
SS6x = PTA Leader
SS7x = School Board Chair
SS8x = School Superintendent
SS9x = State Legislator

*probability of F is less than .05

Table 4A continued

b. Years Lived in Kentucky

	1-20 years	21-40 years	41-60 years	61 + years	F
Q14A	91.1	87.1	87.0	85.1	0.89
Q14B	96.6	96.1	95.7	105.6	2.90*
Q14C	91.8	91.0	88.3	90.8	0.53
Q14D	98.6	104.1	102.5	102.0	1.06
Q14E	142.8	133.0	142.1	125.1	4.39*
Q14F	93.0	97.3	97.6	97.9	0.90
Q14G	95.5	101.2	98.2	96.7	1.45
Q14H	90.2	99.5	94.8	101.4	3.87*
Q14I	96.9	86.9	90.1	91.5	3.19*
Q14J	100.0	100.0	100.0	100.0	--

c. How often do you encounter new high school graduates?

	Daily	Few/ week	1-2/ month	Few/ year	F
Q14A	87.6	94.5	91.7	87.6	1.60
Q14B	95.1	95.7	100.4	100.0	1.46
Q14C	87.5	91.6	89.1	92.1	1.01
Q14D	101.3	105.2	99.1	103.1	1.36
Q14E	141.2	137.5	135.3	131.0	1.32
Q14F	94.7	98.1	98.6	94.3	0.97
Q14G	99.9	97.4	98.7	98.7	0.29
Q14H	96.3	96.6	94.7	99.2	0.51
Q14I	92.5	89.7	88.7	90.6	0.50
Q14J	100.0	100.0	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

	d. Region						e. Marital Status		
	Appal	Centr	Louis	North	Westr	F	Marr.	Sing.	F
Q14A	86.4	91.2	89.8	88.2	83.7	1.44	87.7	87.4	0.02
Q14B	96.2	99.8	93.2	105.9	95.8	2.25	97.2	98.3	0.22
Q14C	94.3	85.1	89.0	89.7	92.0	2.64*	90.3	90.0	0.02
Q14D	105.3	98.3	99.5	104.2	102.6	1.57	102.0	102.6	0.07
Q14E	132.1	136.6	141.5	128.4	141.1	1.61	138.5	131.8	3.05
Q14F	97.2	98.0	93.5	96.5	96.4	0.44	96.1	98.0	0.66
Q14G	94.6	102.7	100.6	100.2	97.3	2.18	97.8	99.8	0.77
Q14H	102.1	95.6	91.1	90.6	97.9	3.32*	95.5	99.2	2.19
Q14I	99.3	99.7	97.8	91.9	89.7	2.02	91.2	89.1	0.73
Q14J	100.0	100.0	100.0	100.0	100.0	--	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

f. Age category

	< 35	35-44	45-54	55 +	F
Q14A	84.8	88.7	90.8	86.6	1.28
Q14B	94.8	96.1	97.2	101.8	1.86
Q14C	94.3	89.5	87.0	89.6	2.08
Q14D	104.5	104.0	97.0	102.6	2.20
Q14E	132.6	140.6	143.9	130.1	3.30*
Q14F	100.5	94.1	93.5	97.5	2.23
Q14G	100.9	99.4	97.6	96.2	1.03
Q14H	98.4	93.9	93.3	100.1	2.05
Q14I	95.6	89.9	95.9	91.7	3.31*
Q14J	100.0	100.0	100.0	100.0	--

g. School age child in home?

	No	Yes	F
Q14A	87.5	87.2	0.01
Q14B	99.5	95.5	2.94
Q14C	89.0	92.2	2.18
Q14D	103.4	100.9	1.23
Q14E	134.7	138.5	1.13
Q14F	96.6	98.6	0.00
Q14G	98.6	98.6	0.00
Q14H	97.2	96.0	0.25
Q14I	90.1	90.7	0.06
Q14J	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

h. Education Category (years)	<= 11	12	13-15	16	17+	F	i. Race Nonwh	White	F
Q14A	87.1	80.5	88.2	89.6	96.5	5.30*	91.2	87.3	0.62
Q14B	106.2	98.5	96.3	92.3	92.9	4.06*	97.0	97.6	0.01
Q14C	93.1	95.5	92.3	89.3	78.9	8.24*	95.4	90.0	1.33
Q14D	108.0	107.9	103.0	97.2	91.3	9.06	102.2	102.3	0.00
Q14E	112.2	125.5	139.5	163.8	153.1	26.21*	125.4	136.8	2.19
Q14F	100.5	101.8	94.8	90.2	91.4	4.74*	94.2	96.8	0.30
Q14G	95.0	99.7	95.2	98.2	103.6	2.28	97.9	98.6	0.03
Q14H	106.9	101.2	93.1	88.6	89.6	8.86*	99.5	96.5	0.35
Q14I	87.2	85.6	94.0	87.8	98.8	4.98*	93.7	90.2	0.46
Q14J	100.0	100.0	100.0	100.0	100.0	--	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

j. Religious Preference

	Catholic	LowProt	HighProt	NonProt	South. Bapt.	Other Bapt.	None	F
Q14A	86.2	85.7	94.5	84.7	86.3	85.0	95.8	1.61
Q14B	101.8	98.1	86.5	97.5	97.6	100.7	95.4	1.61
Q14C	85.3	94.0	89.7	88.6	88.5	86.5	94.7	1.62
Q14D	100.8	104.0	92.7	103.3	105.3	100.9	100.6	1.51
Q14E	139.0	132.4	152.0	126.8	134.6	131.1	138.0	1.60
Q14F	97.5	95.8	89.3	101.1	99.3	96.6	95.7	1.00
Q14G	102.6	98.1	94.9	106.1	97.3	102.6	97.0	1.00
Q14H	90.8	97.6	92.3	102.7	99.2	106.0	90.7	2.45*
Q14I	92.2	90.6	104.6	85.1	88.1	86.8	88.4	2.45*
Q14J	100.0	100.0	100.0	100.0	100.0	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

k. Strength of Religious Identification

	Very Strong	Somewhat Strong	Somewhat Weak	Very Weak	F
Q14A	86.9	86.2	82.9	100.8	2.64*
Q14B	99.5	95.5	99.3	98.2	0.79
Q14C	92.3	89.9	99.3	98.2	2.76*
Q14D	101.0	103.5	103.9	105.1	0.48
Q14E	134.5	133.4	144.1	148.5	1.85
Q14F	97.7	96.2	96.8	87.6	1.12
Q14G	95.2	103.0	102.4	88.9	5.14*
Q14H	99.0	96.0	97.6	86.0	1.77
Q14I	90.0	92.7	86.2	97.8	1.40
Q14J	100.0	100.0	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

1. Total Household income (thousands of dollars)

	less than 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	40 to 50	over 50	F
Q14A	82.7	83.7	87.8	88.0	83.7	83.3	88.4	88.7	90.1	0.64
Q14B	104.5	104.8	104.7	97.2	96.1	97.1	93.0	97.0	94.4	1.38
Q14C	93.5	92.7	90.5	89.0	94.0	91.4	91.2	92.5	85.9	0.77
Q14D	106.1	101.9	107.1	106.7	108.8	98.6	106.1	94.8	97.9	2.15*
Q14E	116.2	125.9	119.9	129.7	128.6	135.9	139.7	148.7	149.2	4.21*
Q14F	105.4	101.2	96.1	96.5	98.3	97.4	96.6	94.9	93.3	0.72
Q14G	95.7	93.9	99.0	100.6	101.0	97.4	100.0	100.9	99.2	0.41
Q14H	107.0	100.4	107.3	97.6	104.2	101.9	94.0	86.5	90.8	3.90*
Q14I	85.4	91.8	83.4	91.3	81.3	83.5	87.7	92.6	85.5	1.85
Q14J	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4A continued

	m. Have you ever been a teacher?			n. Sex		
	Yes	No	F	Female	Male	F
Q14A	92.7	85.9	6.40*	84.6	90.4	6.65*
Q14B	96.0	98.0	0.49	98.6	96.4	0.90
Q14C	81.4	93.1	21.80*	90.5	90.3	0.01
Q14D	94.5	104.4	11.79*	102.4	102.0	0.03
Q14E	155.0	130.6	35.68*	136.5	136.0	0.02
Q14F	89.4	98.9	13.57*	96.0	97.3	0.38
Q14G	99.6	98.3	0.30	99.4	97.9	0.49
Q14H	91.4	98.3	6.35*	96.5	96.6	0.00
Q14I	95.0	89.0	4.81*	91.8	89.2	1.29
Q14J	100.0	100.0	--	100.0	100.0	--

Q14A = science, our environment, and the work of scientists
Q14B = human behavior, self-esteem, relating to others, becoming a responsible individual
Q14C = being able to understand and use computers and technology
Q14D = work, employment, and earning a living
Q14E = basic reading, writing, speaking, and math skills
Q14F = personal finances, household management, parenting, and family responsibility
Q14G = learning how to think and solve problems
Q14H = health and fitness including drug and alcohol education
Q14I = history, literature, the arts, languages, and geography
Q14J = government, politics, and economics (THIS WAS THE ANCHOR AND HAD AN IMPUTED VALUE OF 100 HOURS)

*probability of F is less than .05

Table 4B compares the results from Tables 4a and 4Aa. The values in Table 4B are the ranks of the nine areas of instruction that were included in both Table 4a and 4Aa. The purpose is to expose the differences in the rankings that resulted from assessing the importance of different areas of instruction using two different methods of inquiry. The first methods focused on outcomes of instruction and the second on the areas themselves. Other differences in the ways the questions are summarized below:

-the Outcomes method asked what proportion of students should be able to demonstrate particular knowledge, skill, or belief, whereas the Areas method asked how much of a limited resource (time) should be devoted to a given area.

-the Outcomes method asked each item in a fixed sequence, whereas the order and sequence of the Areas method was randomly varied for each respondent.

The results of the two methods are compared in Table 4B. There were considerable differences in the rankings. For example, basic reading, writing, speaking, and math skills was ranked fairly low by the Outcomes method, falling into sixth place according to both the OLs and the GPs. In contrast, when the Areas method was used, both OLs and GPs ranked basic reading, writing, speaking, and math skills in first place. What can be concluded from the data when such large discrepancies are observed for the different methods? Some answers to this question will be suggested below. However, a brief statement about the relative rankings of each of the ten areas included in both methods will be made first.

Three areas had low overall ranks. Clearly the area with the lowest ranking is "being able to understand and use computers and technology." OL respondents gave it the lowest rank regardless of method and GP respondents ranked it tenth by the Outcomes and eighth by the Areas method. This does not mean that skill in this area is unimportant. It does suggest, however, that both OL and GP respondents do not see this as an area in which all students must demonstrate competence with regard to the outcomes listed and that relatively fewer hours should be devoted to instruction in this area compared to the other areas.

The area of "science, our environment, and the work of scientists" had the next lowest overall rank. This area was ranked in the bottom third by both OL and GP respondents, regardless of method. As with the previous area, a relatively smaller proportion of high school graduates are expected to achieve mastery of outcomes in this area, and comparatively fewer hours are allocated for its instruction.

The area of "history, literature, the arts, languages, and geography" had the next lowest (eighth) overall ranking. The GP respondents rated it ninth by both methods. The OL respondents agreed when the Outcomes method was used, but gave it a much higher rank (fourth) when the Areas method was used. One possible explanation for this divergence of ranks by the OLs is that there is a "social desirability" effect among the OLS (but not the GPs) when these subjects from the humanities are explicitly mentioned, as in the Areas method. However, when examples of specific outcomes in this area are mentioned without reference to the subjects themselves, the OLs agree with the GPs that a relatively low proportion of high school graduates should achieve mastery of these skills and knowledge.

The three areas discussed so far seem to be substantially separated from the other areas by their low overall ranks. Three more areas appear to be grouped in the middle range of the overall rankings. The area of "health and fitness, including alcohol and drug education" had the seventh overall rank. However, it was ranked third by both OL and GP respondents when the Outcomes method was used and eighth or sixth, respectively, when the Areas method was used. It appears that both OL and GP respondents think a relatively high proportion of high school graduates should achieve mastery of skills and knowledge of specific outcomes, but that comparatively few hours of instruction should be allocated to this area.

An exactly opposite effect appears for the area of "government, politics, and economics," which was tied with "learning to think and solve problems" for sixth place overall. OLs and GPs agreed, according to the Outcomes method, that mastery of skills and knowledge in this area should be rated seventh. However, using the Areas method they positioned this area second or third, respectively. This area is a special case, because it was the anchor item for the Areas ratings of the hours to be assigned. It was selected because it was believed that it would be near the middle of the range of responses. However, because the means of the Area ratings have a skewed distribution due to the high number of hours allocated to "basic reading, writing, speaking, and math skills," it may be that "government, politics, and economics" appears spuriously high in the Areas rankings.

"Learning how to think and solve problems had a more consistent ranking near the middle of the list. The OLs tended to place greater value on this area than the GPs regardless of the method used. Two areas were tied for the fourth position overall. "Work, employment, and earning a living" was given a slightly higher rank by the GPs. For the OLs there was no difference by method. However, for the GPs the rank by the Outcomes method was fourth, whereas by the Areas method it was second.

There was a large methods effect for the area "Personal finances, household management, parenting, and family responsibility." By the Outcomes method it was ranked second or first by the OLs and GPs, respectively. However, the OLs rated it ninth by the Areas method, the largest single difference in rank for any item in the table. The drop to fourth place for the GPs is not as large, but indicates that the allocation of time for instruction places this area in the middle ranks, whereas the proportion of high school graduates who should achieve mastery is of the highest rank for the GPs.

Two areas tied for the highest overall ranking. They were "human behavior, self-esteem, relating to others, becoming a responsible individual" and "basic reading, writing, speaking, and math skills." While they had essentially identical rankings by

The OL and GP samples, they had quite large, but opposite, methods effects. The "human behavior..." area was given a high rank by the Outcomes method but a middle-range rank by the Areas method. In contrast, the "basic reading, writing, speaking, and math" area was ranked sixth by both samples using the Outcomes method, but was ranked first by the Areas method.

Possible explanations for the patterns of ranks observed include several methodological phenomena. For example, order and sequence effects may have influenced the rating of items by the Outcomes method. Since order and sequence were randomly varied for the Areas approach, they should not have substantially influenced the results.

The wording of the questions is another likely cause of differences in the patterns observed. The overall purpose of the two methods of asking the questions was to find out how OLs and GPs value the skills and knowledge they think a Kentucky high school graduate should possess in a variety of areas. The Outcomes method asked how extensively material should be offered and the Areas method examined the intensity of instruction in terms of time allocated.

The two methods also differed in the way the areas were presented. In the Outcomes method, the area was identified in the same way as in the Areas method, but the questions focused on specific outcomes (skills or knowledge) that fall within a particular area. In contrast, the Areas method asked about the areas in general. The large difference in the way in which "basic reading, writing, speaking, and math skills" is evaluated by both groups, and "history, literature, the arts, languages, and geography" is evaluated by the OLs suggests the possibility of a "social desirability" effect. "Reading, writing, and 'rithmatic" is a cliche in popular consciousness about education. Similarly, the subjects of the humanities are a valued cliche of the intellectual elite of our society. It is possible that when presented with the definitions of areas of instruction in terms that evoke feelings associated with a valued cliche, there is a tendency to give the response that seems to be socially desirable. Thus, the "basic reading, writing, speaking, and math" skills area is given a high rank by the Areas method because everybody "knows" that this is what they are expected to identify as the major task of schools. When the question is asked without direct reference to the cliche, however, the "social desirability" effect is missing and those behaviors that make up or manifest mastery with in the area are given a much lower rank. (It is also possible that respondents were reacting to specifics of an outcome--for example, if newspapers are not valued, then being able to read a newspaper may receive a low rating even though reading itself is valued.)

Given the evidence of methodological effects in the results of the survey, what conclusions are warranted about the relative importance people in Kentucky attach to difference areas of instruction? First, the way in which they express their values are complex and very much influenced by the way in which they are asked to express them. Certainly more research in this area would be worthwhile. Second, though none of the areas presented in this study are trivial or unimportant, some are clearly valued more than others. High technology areas appear to be valued least in terms of the questions that were asked. The humanities are similarly given low value except when OLs are asked a question that may lend itself to "social desirability" effect. Third, "government, economics, and politics," "health and fitness including drug and alcohol education," and "learning how to think and solve problems," while showing some methods effects, appear to be grouped in the middle range of rankings of the items. Fourth, daily living and coping areas such as "personal finances, household management, parenting, and family responsibility" and "work, employment, and earning a living," while also showing a substantial methods effect in the first instance, seem to be rather highly valued. Fifth, basic skills and relationship skills have the highest ranks, though they display large and opposite methods effects. Though more data would be required to draw a firm conclusion as to the position of these areas, the likelihood of "social desirability" effects suggests that the Outcomes method more accurately places these areas in the rank that reflects the behavior-governing values of Kentucky's citizens.

Table 4B. Comparison of Results from Table 4a and 4Aa: Ranks by Sample and Method

Sample	Opinion Leader		General Population	
	Outcomes	Areas	Outcomes	Areas
Q14A-science, our environment, and the work of scientists	8	7	8	10
Q14B-human behavior, self-esteem, relating to others, etc.	1	6	2	5
Q14C-being able to understand and use computers and technology	10	10	10	8
Q14D-work, employment, and earning a living	5	5	4	2
Q14E-basic reading, writing, speaking and math skills	6	1	6	1
Q14F-personal finances, household management, parenting, etc.	2	9	1	4
Q14G-learning how to think and solve problems	4	3	5	7
Q14H-health and fitness including alcohol and drug education	3	8	3	6
Q14I-history, literature, the arts, languages, and geography	9	4	9	9
Q14J-government, politics, and economics	7	2*	7	3*

*This item was the "anchor" for the Areas method of rating the items.

Values a Kentucky High School Graduate Should Have

Respondents were asked to rate the importance of thirteen values in terms of how important it is for a Kentucky high school graduate to have each value in the next decade. The response options were coded as follows: "extremely important" = 1; "above average in importance" = 2; "below average in importance" = 3; "not important" = 4. It should be kept in mind that even when a value received a relatively low rating, its average rating is generally equivalent to "above average in importance" or higher; that is, all of the values compared here are perceived by the respondents to be important.

Table 5a-n shows the average ratings for each value. The lower the number, the greater the importance of the value. Table 5a compares the OL and GP respondents. For twelve of the thirteen values the OL respondents assigned greater importance than the GP respondents. The most important value for both groups was VAL18 (honesty and integrity). The value with the lowest rating for both groups was VAL17 (the free enterprise system). For four of the thirteen values the differences in the mean ratings were large enough to be statistically significant. OLs assigned significantly greater importance to VAL15 (democracy), VAL18 (honesty and integrity), and VAL20 (the importance of service to society). For VAL23 (the importance of family life) the OLs assigned significantly less importance than the GP respondents.

Table 5a1 compares the nine OL subsample (SS) ratings of the thirteen values. Statistically significant differences were found for four values. For VAL17 (the free enterprise system) the highest ratings were given by school superintendents (SS8x) and Chamber of Commerce leaders (SS1x). The lowest ratings of the value "the free enterprise system" were made by college faculty (SS3x) and, surprisingly, by business executives (SS2x).

VAL18 (honesty and integrity) was assigned the greatest importance by members of the Prichard Committee (SS5x); its lowest rating was given by business executives (SS2x). VAL25 (respect for authority) was given the highest rating by PTA leaders (SS6x); its lowest ratings came from college faculty (SS3x). VAL27 (respect for individual rights and differences) was rated most important by Prichard Committee members (SS5x) and was rated lowest by employment counselors and personnel managers (SS4x) and by business executives (SS2x).

Table 5b shows the ratings of the values by number of years lived in Kentucky. Only VAL15 (democracy) showed statistically significant differences, with its importance increasing as the number of years lived in Kentucky increases. Its relationship to age is similar--see Table 5f.

Table 5c shows the mean ratings of the values by frequency of contact with new high school graduates. Only VAL26 (responsibility) showed statistically significant differences, with the importance attributed being greater for those with more frequent encounters with new high school graduates.

Table 5d shows the mean ratings of the values by region of the state. None of the differences by region were statistically significant.

Table 5e shows the mean ratings by marital status. Married respondents rated VAL21 (desire to work hard and do a good job) and VAL25 (respect for authority) as being significantly more important than did single respondents.

Table 5f shows that ratings of the importance of VAL15 (democracy) and VAL17 (the free enterprise system) significantly increase with age.

Table 5g shows that the presence or absence of a school age child in the respondent's home was not associated with statistically significant differences among the mean ratings of any of the values.

Table 5h shows the relationship between ratings of the values and education. For VAL15 (democracy), VAL20 (importance of service to society), and VAL22 (self-esteem) the importance increased with the respondents' number of years of schooling. For VAL23 (the importance of family life) a curvilinear relationship exists, with those who have not finished high school and those who have at least four years of college assigning the lowest importance to this value.

Table 5i indicates that race is unrelated to the ratings of the importance of the values.

Table 5j shows that only VAL23 (the importance of family life) is significantly related to religious preference with Southern Baptists assigning the greatest importance to this value and those with no religious preference the least importance. Table 5k indicates that the strength of religious identification (if any) is not significantly related to the ratings of importance of any of the values.

Table 5l shows that the rating of VAL15 (democracy) increases in importance with total household income of the respondent. The same pattern is observed for VAL18 (honesty and integrity), VAL22 (self esteem), and VAL26 (responsibility). There are statistically significant differences among the means for VAL21 (desire to work hard and do a good job), but a clear linear pattern is not evident.

Table 5m displays the mean ratings of the values by whether or not the respondent has ever been a teacher. Those who had teaching experience assigned significantly greater importance to VAL15 (democracy), VAL18 (honesty and integrity), VAL 20 (importance of service to society), and VAL27 (respect for individual rights and differences) than did those respondents who had never taught.

Table 5n shows the mean ratings of the values by females and males. Males assigned significantly greater importance than females to VAL17 (the free enterprise system). Females assigned significantly greater importance than males to VAL19 (respect and appreciation for ethnic differences), VAL22 (self-esteem), VAL24 (education and life-long learning), and VAL26 (responsibility).

Table 5. Mean Ratings of Values a Kentucky High School Graduate Should Have

a. Sample	Opinion Leader	General Population	F
VAL15	1.46	1.69	20.10*
VAL16	1.52	1.59	2.19
VAL17	1.76	1.83	1.27
VAL18	1.12	1.22	8.41*
VAL19	1.48	1.55	2.41
VAL20	1.56	1.72	9.82*
VAL21	1.26	1.28	0.36
VAL22	1.30	1.35	1.12
VAL23	1.34	1.24	6.14*
VAL24	1.27	1.31	1.03
VAL25	1.30	1.34	0.73
VAL26	1.24	1.26	0.18
VAL27	1.28	1.36	3.41

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

al. Opinion Leader Subsample (SS)

	SS1x	SS2x	SS3x	SS4x	SS5x	SS6x	SS7x	SS8x	SS9x	F
VAL15	1.61	1.59	1.57	1.59	1.35	1.50	1.45	1.22	1.24	1.63
VAL16	1.48	1.77	1.30	1.55	1.38	1.73	1.77	1.50	1.38	1.91
VAL17	1.57	1.91	2.26	1.73	1.71	1.82	1.68	1.52	1.67	3.40*
VAL18	1.22	1.32	1.13	1.14	1.00	1.05	1.14	1.05	1.05	2.20*
VAL19	1.65	1.55	1.43	1.68	1.22	1.36	1.50	1.55	1.33	1.72
VAL20	1.68	1.64	1.57	1.73	1.18	1.50	1.50	1.64	1.62	1.68
VAL21	1.26	1.32	1.43	1.36	1.22	1.09	1.23	1.14	1.29	1.28
VAL22	1.27	1.32	1.43	1.36	1.22	1.09	1.23	1.14	1.29	1.25
VAL23	1.30	1.36	1.57	1.55	1.27	1.14	1.27	1.23	1.33	1.58
VAL24	1.35	1.27	1.35	1.50	1.22	1.14	1.18	1.27	1.33	1.05
VAL25	1.39	1.27	1.61	1.45	1.30	1.14	1.18	1.14	1.19	2.26*
VAL26	1.30	1.27	1.17	1.36	1.22	1.09	1.31	1.14	1.29	1.00
VAL27	1.35	1.45	1.22	1.55	1.13	1.18	1.18	1.18	1.28	2.20*

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

SS1x = Chamber of Commerce Leader
SS2x = Business Executive
SS3x = College Faculty
SS4x = Employment Counselor or Personnel Manager
SS5x = Prichard Committee Member
SS6x = PTA Leader
SS7x = School Board Chair
SS8x = School Superintendent
SS9x = State Legislator

*probability of F is less than .05

Table 5 continued

b. Years Lived in Kentucky

	1-20 years	21-40 years	41-60 years	61 + years	F
VAL15	1.62	1.74	1.56	1.56	4.18*
VAL16	1.49	1.61	1.59	1.54	1.49
VAL17	1.81	1.89	1.76	1.74	2.18
VAL18	1.19	1.25	1.16	1.16	2.30
VAL19	1.53	1.53	1.58	1.49	0.65
VAL20	1.69	1.67	1.70	1.65	0.18
VAL21	1.30	1.26	1.38	1.29	0.30
VAL22	1.28	1.34	1.34	1.36	0.60
VAL23	1.29	1.25	1.27	1.24	0.32
VAL24	1.30	1.26	1.33	1.31	0.81
VAL25	1.29	1.32	1.30	1.31	0.92
VAL26	1.23	1.25	1.25	1.27	0.23
VAL27	1.30	1.36	1.32	1.36	0.70

c. How often do you encounter new high school graduates?

	Daily	Few/ week	1-2/ month	Few/ year	F
VAL15	1.64	1.68	1.61	1.63	0.43
VAL16	1.53	1.60	1.66	1.52	2.01
VAL17	1.88	1.83	1.83	1.70	2.15
VAL18	1.21	1.22	1.18	1.18	0.33
VAL19	1.54	1.56	1.53	1.55	0.14
VAL20	1.67	1.66	1.70	1.69	0.15
VAL21	1.26	1.27	1.31	1.28	0.37
VAL22	1.30	1.38	1.35	1.30	1.04
VAL23	1.26	1.27	1.30	1.22	0.66
VAL24	1.23	1.32	1.32	1.34	2.14
VAL25	1.33	1.29	1.39	1.31	1.22
VAL26	1.22	1.22	1.33	1.28	2.71*
VAL27	1.33	1.34	1.37	1.33	0.25

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

d. Region

e. Marital Status

	Appal	Centr	Louis	North	Westr	F	Marr.	Sing.	F
VAL15	1.64	1.60	1.58	1.65	1.68	0.55	1.61	1.67	1.49
VAL16	1.53	1.57	1.48	1.72	1.60	2.25	1.57	1.58	0.14
VAL17	1.84	1.86	1.76	1.79	1.76	0.80	1.81	1.81	0.02
VAL18	1.23	1.16	1.18	1.22	1.20	0.94	1.19	1.20	0.01
VAL19	1.59	1.48	1.49	1.47	1.57	1.34	1.55	1.49	2.27
VAL20	1.69	1.64	1.67	1.68	1.71	0.31	1.67	1.69	0.25
VAL21	1.27	1.25	1.29	1.31	1.28	0.27	1.25	1.33	5.58*
VAL22	1.38	1.31	1.34	1.28	1.32	0.72	1.33	1.34	0.12
VAL23	1.26	1.24	1.27	1.30	1.27	0.24	1.25	1.28	0.49
VAL24	1.28	1.29	1.29	1.33	1.30	0.15	1.30	1.29	0.04
VAL25	1.28	1.31	1.36	1.37	1.35	0.97	1.29	1.40	7.48*
VAL26	1.27	1.24	1.19	1.30	1.26	1.00	1.25	1.25	0.00
VAL27	1.40	1.31	1.31	1.39	1.29	1.61	1.33	1.34	0.05

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

f. Age category

	< 35	35-44	45-54	55 +	F
VAL15	1.78	1.65	1.51	1.58	6.78*
VAL16	1.62	1.56	1.57	1.54	0.59
VAL17	1.93	1.82	1.75	1.73	3.66*
VAL18	1.23	1.25	1.15	1.16	2.59
VAL19	1.57	1.51	1.50	1.54	0.54
VAL20	1.73	1.69	1.69	1.62	1.21
VAL21	1.27	1.29	1.27	1.28	0.10
VAL22	1.27	1.40	1.30	1.36	2.39
VAL23	1.25	1.30	1.25	1.24	0.67
VAL24	1.26	1.33	1.33	1.28	0.99
VAL25	1.33	1.40	1.31	1.28	1.85
VAL26	1.22	1.31	1.21	1.26	2.13
VAL27	1.33	1.41	1.29	1.33	1.80

g. School age child in home?

	No	Yes	F
VAL15	1.61	1.69	2.80
VAL16	1.55	1.59	0.83
VAL17	1.79	1.85	1.47
VAL18	1.18	1.22	1.57
VAL19	1.52	1.55	0.39
VAL20	1.68	1.68	0.00
VAL21	1.29	1.26	0.77
VAL22	1.32	1.36	1.14
VAL23	1.27	1.25	0.53
VAL24	1.31	1.27	1.26
VAL25	1.35	1.29	3.38
VAL26	1.26	1.23	0.93
VAL27	1.34	1.34	0.04

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

	h. Education Category (years)						i. Race		
	<=11	12	13-15	16	17+	F	Nonwh	White	F
VAL15	1.73	1.80	1.66	1.46	1.40	12.68*	1.66	1.64	0.05
VAL16	1.58	1.60	1.58	1.55	1.52	0.48	1.57	1.57	0.00
VAL17	1.93	1.80	1.72	1.85	1.80	1.80	1.93	1.81	1.28
VAL18	1.24	1.22	1.20	1.15	1.15	1.50	1.27	1.19	1.27
VAL19	1.56	1.55	1.58	1.45	1.50	0.92	1.51	1.54	0.07
VAL20	1.77	1.71	1.73	1.58	1.57	3.12*	1.52	1.69	3.00
VAL21	1.34	1.25	1.29	1.29	1.25	1.03	1.18	1.28	2.04
VAL22	1.48	1.30	1.31	1.33	1.28	3.72*	1.40	1.33	0.75
VAL23	1.30	1.18	1.23	1.33	1.32	3.24*	1.29	1.26	0.16
VAL24	1.39	1.29	1.27	1.26	1.27	1.61	1.27	1.30	0.10
VAL25	1.35	1.28	1.33	1.33	1.38	0.87	1.32	1.33	0.01
VAL26	1.31	1.25	1.26	1.23	1.21	1.06	1.14	1.26	2.96
VAL27	1.36	1.37	1.37	1.30	1.26	1.53	1.37	1.34	0.18

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

j. Religious Preference

	Catholic	LowProt	HighProt	NonProt	South. Bapt.	Other Bapt.	None	F
VAL15	1.73	1.62	1.44	1.68	1.62	1.56	1.76	2.09
VAL16	1.60	1.54	1.40	1.76	1.63	1.48	1.61	1.86
VAL17	1.81	1.80	1.76	1.80	1.80	1.78	1.96	0.71
VAL18	1.26	1.17	1.16	1.23	1.18	1.20	1.25	0.93
VAL19	1.51	1.52	1.45	1.63	1.54	1.52	1.60	0.47
VAL20	1.72	1.71	1.54	1.64	1.67	1.65	1.79	1.12
VAL21	1.30	1.27	1.31	1.45	1.22	1.26	1.37	1.64
VAL22	1.39	1.29	1.32	1.27	1.28	1.43	1.43	1.96
VAL23	1.25	1.23	1.23	1.27	1.20	1.26	1.51	3.98*
VAL24	1.30	1.29	1.30	1.32	1.26	1.33	1.36	0.48
VAL25	1.38	1.29	1.39	1.50	1.27	1.36	1.43	2.08
VAL26	1.29	1.21	1.31	1.36	1.24	1.31	1.27	1.12
VAL27	1.36	1.30	1.40	1.41	1.32	1.43	1.32	0.85

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

k. Strength of Religious Identification

	Very Strong	Somewhat Strong	Somewhat Weak	Very Weak	F
VAL15	1.58	1.66	1.64	1.72	1.03
VAL16	1.56	1.58	1.59	1.39	0.96
VAL17	1.79	1.79	1.74	2.03	1.53
VAL18	1.18	1.21	1.57	1.26	0.73
VAL19	1.50	1.55	1.51	1.59	0.50
VAL20	1.65	1.69	1.66	1.79	0.63
VAL21	1.27	1.24	1.31	1.36	0.99
VAL22	1.33	1.33	1.25	1.41	0.89
VAL23	1.20	1.25	1.62	1.33	1.44
VAL24	1.28	1.28	1.32	1.42	1.03
VAL25	1.27	1.34	1.37	1.41	1.84
VAL26	1.24	1.27	1.21	1.33	0.84
VAL27	1.32	1.38	1.32	1.27	1.76

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

1. Total Household Income (thousands of dollars)

	less than 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	40 to 50	over 50	F
VAL15	1.76	1.82	1.72	1.68	1.84	1.65	1.48	1.69	1.51	3.77*
VAL16	1.55	1.66	1.61	1.50	1.62	1.49	1.56	1.62	1.59	0.60
VAL17	1.79	1.97	1.97	1.75	1.89	1.77	1.78	1.84	1.78	1.11
VAL18	1.32	1.24	1.32	1.20	1.35	1.16	1.15	1.17	1.15	2.44*
VAL19	1.60	1.55	1.57	1.64	1.59	1.47	1.52	1.52	1.51	0.53
VAL20	1.71	1.78	1.69	1.63	1.75	1.59	1.63	1.77	1.64	1.02
VAL21	1.23	1.46	1.24	1.33	1.44	1.24	1.17	1.28	1.25	3.21*
VAL22	1.59	1.52	1.29	1.35	1.48	1.25	1.30	1.31	1.28	2.92*
VAL23	1.35	1.37	1.21	1.21	1.25	1.20	1.22	1.26	1.28	1.25
VAL24	1.45	1.38	1.32	1.31	1.40	1.21	1.22	1.30	1.30	1.58
VAL25	1.41	1.41	1.39	1.34	1.37	1.30	1.21	1.37	1.35	1.37
VAL26	1.41	1.40	1.32	1.25	1.28	1.12	1.15	1.28	1.27	3.23*
VAL27	1.59	1.41	1.31	1.40	1.38	1.24	1.32	1.40	1.29	1.76

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Table 5 continued

	m. Have you ever been a teacher?			n. Sex		
	Yes	No	F	Female	Male	F
VAL15	1.43	1.70	27.17*	1.66	1.61	1.58
VAL16	1.53	1.59	1.12	1.55	1.59	1.06
VAL17	1.82	1.81	0.03	1.87	1.76	5.94*
VAL18	1.13	1.22	5.21*	1.18	1.22	1.75
VAL19	1.49	1.55	1.47	1.44	1.63	20.03*
VAL20	1.57	1.72	8.27*	1.65	1.71	1.50
VAL21	1.27	1.28	0.06	1.28	1.28	0.00
VAL22	1.30	1.35	1.25	1.30	1.37	4.08*
VAL23	1.30	1.25	0.90	1.24	1.28	1.29
VAL24	1.24	1.31	3.12	1.25	1.35	8.12*
VAL25	1.30	1.33	0.58	1.31	1.35	1.15
VAL26	1.20	1.27	3.15	1.21	1.29	6.29*
VAL27	1.27	1.36	3.87*	1.31	1.37	3.62

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
VAL23 = The importance of family life
VAL24 = Education and life long learning
VAL25 = Respect for authority
VAL26 = Responsibility
VAL27 = Respect for individual rights and differences

*probability of F is less than .05

Degree of the School's Responsibility for Instilling Values

Respondents were asked to indicate the degree of responsibility schools have (compared to the home, church, or other agencies) for instilling the thirteen values described in the previous section. Response options were coded as follows: "major responsibility" = 0; "some responsibility" = 1; "little responsibility" = 2; and "no responsibility" = 3.

Table 6a-n shows the average level of responsibility assigned to the school for instilling each value. The smaller the number, the greater the school's responsibility. Table 6a compares the OL and GP respondents. The values for which the schools have the greatest responsibility according to the OLs are VAL17 (the free enterprise system), VAL16 (concern for the environment), and VAL24 (education and life long learning). The three values for which the school has the greatest responsibility in the view of the GPs are VAL17 (the free enterprise system), VAL24 (education and life long learning), and VAL16 (concern for the environment). Both groups give the school least responsibility for VAL23 (the importance of the family), VAL18 (honesty and integrity), and VAL22 (self-esteem). For VAL15 (democracy), VAL16 (concern for the environment), and VAL17 (the free enterprise system) the OLs assigned the school significantly greater responsibility than did the GPs.

Table 6a1 compares the nine OL subsample (SS) ratings of the amount of responsibility schools have for instilling the thirteen values. Statistically significant differences were found for two values. For VAL24 (education and life long learning) business executives (SS2x) and employment counselors and personnel managers (SS4x) gave schools the greatest responsibility, whereas state legislators (SS9x) and Chamber of Commerce leaders (SS1x) gave schools the least responsibility. For VAL26 (responsibility) state legislators (SS9x) and school board chairs (SS7x) gave schools the greatest responsibility, in contrast with employment counselors and personnel managers (SS4x) and PTA leaders who gave schools the least responsibility for instilling this value.

Table 6b shows the assignment of responsibility to school by years lived in Kentucky. For VAL18 (honesty and integrity) and VAL23 (the importance of family life) the responsibility assigned to the school increases with the number of years lived in Kentucky. For VAL24 (education and life long learning) the responsibility assigned to the school decreases with the number of years lived in Kentucky. (Compare this with the breakdown by age, Table 6f, which shows a slightly different pattern.)

Table 6c indicates that for none of the values is the degree of responsibility assigned to schools significantly related to the frequency with which the respondent encounters new high school graduates.

Table 6d indicates that region of the state in which the respondent resides is significantly associated with school responsibility for instilling only two values. For VAL15 (democracy) persons from the Louisville area assign the schools the greatest responsibility and persons from norther Kentucky the least. For VAL17 (the free enterprise system) respondents from Appalachia and from central Kentucky assign the school the greatest responsibility and persons from northern Kentucky the least.

Table 6e suggests that married respondents assign schools significantly more responsibility than do single respondents for instilling VAL15 (democracy), VAL16 (concern for the environment), VAL17 (the free enterprise system), and VAL18 (honesty and integrity).

Table 6f shows that as age increases the responsibility assigned to schools for teaching VAL24 (education and life long learning) decreases. Statistically significant curvilinear relationships exist for VAL15 (democracy), VAL16 (concern for the environment), VAL20 (importance of service to society), VAL25 (respect for authority), and VAL26 (responsibility).

Table 6g shows that only for VAL15 (democracy) is there a statistically significant difference in the responsibility assigned to schools associated with whether or not there is a child in the home. Those with children assign the school significantly more responsibility for instilling the value of democracy.

Table 6h shows that significantly greater responsibility is assigned to schools for instilling VAL15 (democracy) and VAL16 (concern for the environment) by persons with more years of schooling.

Tables 6i, 6j, and 6k indicate that the responsibility assigned to schools for instilling values are not associated with race, religious preference, nor strength of religious identification.

Table 6l shows that the responsibility assigned to schools for instilling VAL16 (concern for the environment) and VAL17 (the free enterprise system) increases with the respondent's income. There are also statistically significant but nonlinear differences in the responsibility assigned to schools for instilling VAL15 (democracy).

Table 6m shows that person who have been teachers assign schools greater responsibility to schools for instilling only one value, VAL16 (concern for the environment).

Table 6n shows that males assign schools significantly greater responsibility for instilling six values than do females. The six values are VAL15 (democracy), VAL16 (concern for the environment), VAL17 (the free enterprise system), VAL21 (desire to work hard and do a good job), VAL22 (self-esteem), VAL26 (responsibility), and VAL27 (respect for individual rights and differences).

Table 6. Mean Ratings of the Degree of the School's Responsibility for Instilling Values

a. Sample	Opinion Leader	General Population	F
VAL15	0.61	0.72	5.12*
VAL16	0.41	0.62	17.76*
VAL17	0.30	0.40	4.21*
VAL18	1.04	1.07	0.46
VAL19	0.93	0.93	0.00
VAL20	0.88	0.83	0.81
VAL21	0.98	0.99	0.02
VAL22	1.03	1.02	0.07
VAL23	1.31	1.33	0.10
VAL24	0.44	0.49	1.14
VAL25	0.99	0.97	0.26
VAL26	0.98	0.99	0.03
VAL27	0.92	0.91	0.03

VAL15 = Democracy
VAL16 = Concern for the environment
VAL17 = The free enterprise system
VAL18 = Honesty and integrity
VAL19 = Respect and appreciation for ethnic differences
VAL20 = Importance of service to society
VAL21 = Desire to work hard and do a good job
VAL22 = Self esteem
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*probability of F is less than .05

Table 6 continued

a1. Opinion Leader Subsample (SS)

	SS1x	SS2x	SS3x	SS4x	SS5x	SS6x	SS7x	SS8x	SS9x	F
VAL15	0.59	0.67	0.62	0.59	0.76	0.57	0.62	0.50	0.58	0.40
VAL16	0.35	0.43	0.35	0.38	0.42	0.48	0.50	0.48	0.30	0.36
VAL17	0.27	0.23	0.36	0.29	0.33	0.48	0.25	0.13	0.33	0.74
VAL18	1.09	1.18	1.00	1.10	1.00	1.05	0.90	1.00	1.05	1.95
VAL19	1.13	1.81	1.83	1.81	1.00	0.95	0.95	0.95	0.95	1.44
VAL20	0.74	0.91	0.95	0.85	0.86	0.95	0.81	0.90	0.95	0.41
VAL21	0.91	1.00	1.00	0.90	1.05	1.05	1.05	0.95	1.00	0.44
VAL22	0.91	1.19	1.05	1.05	1.05	1.05	1.05	0.95	0.94	0.93
VAL23	1.35	1.23	1.43	1.33	1.41	1.33	1.33	1.09	1.31	0.59
VAL24	0.64	0.29	0.36	0.24	0.59	0.50	0.30	0.29	0.71	2.47*
VAL25	1.04	1.00	0.87	1.00	1.05	1.04	0.95	1.00	1.00	0.63
VAL26	1.00	1.05	1.00	1.05	1.00	1.05	0.80	1.00	0.90	2.11*
VAL27	0.95	1.00	0.78	0.80	0.95	1.00	0.95	0.91	0.90	0.80

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SS1x = Chamber of Commerce Leader
SS2x = Business Executive
SS3x = College Faculty
SS4x = Employment Counselor or Personnel Manager
SS5x = Prichard Committee Member
SS6x = PTA Leader
SS7x = School Board Chair
SS8x = School Superintendent
SS9x = State Legislator

*probability of F is less than .05

Table 6 continued

b. Years Lived in Kentucky

	1-20 years	21-40 years	41-60 years	61 + years	F
VAL15	0.66	0.69	0.65	0.82	2.53
VAL16	0.53	0.56	0.53	0.70	2.46
VAL17	0.43	0.36	0.31	0.42	1.62
VAL18	1.19	1.03	1.05	1.00	5.23*
VAL19	0.97	0.94	0.93	0.87	0.74
VAL20	0.88	0.79	0.87	0.88	1.09
VAL21	1.02	0.93	1.01	1.00	1.63
VAL22	1.11	0.99	1.01	0.98	2.17
VAL23	1.52	1.33	1.29	1.16	8.11*
VAL24	0.48	0.40	0.50	0.60	3.39*
VAL25	1.01	0.98	0.98	0.94	0.55
VAL26	1.02	0.94	1.04	0.97	2.56
VAL27	0.93	0.87	0.93	0.96	1.16

c. How often do you encounter new high school graduates?

	Daily	Few/ week	1-2/ month	Few/ year	F
VAL15	0.67	0.70	0.65	0.74	0.71
VAL16	0.57	0.60	0.49	0.59	1.09
VAL17	0.38	0.36	0.34	0.38	0.20
VAL18	1.06	1.05	1.07	1.08	0.14
VAL19	0.95	0.94	0.95	0.86	0.94
VAL20	0.85	0.82	0.83	0.88	0.29
VAL21	0.99	1.00	0.98	0.92	0.89
VAL22	1.00	1.02	1.05	1.01	0.31
VAL23	1.28	1.32	1.41	1.32	1.34
VAL24	0.47	0.50	0.46	0.47	0.21
VAL25	0.93	0.99	1.01	1.02	1.18
VAL26	0.98	0.99	1.01	0.97	0.16
VAL27	0.87	0.90	0.95	0.92	0.83

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*probability of F is less than .05

Table 6 continued

d. Region

	Appal	Centr	Louis	North	Westr	F
VAL15	0.67	0.65	0.60	0.82	0.78	3.18*
VAL16	0.59	0.54	0.52	0.70	0.55	1.37
VAL17	0.31	0.32	0.47	0.50	0.37	2.98*
VAL18	1.03	1.05	1.09	1.05	1.08	0.40
VAL19	0.92	0.94	0.95	0.89	0.94	0.20
VAL20	0.86	0.85	0.88	0.76	0.81	0.62
VAL21	0.93	1.01	0.97	0.93	1.05	1.73
VAL22	1.00	1.06	0.07	0.94	0.99	1.03
VAL23	1.37	1.30	1.33	1.14	1.35	2.08
VAL24	0.40	0.49	0.52	0.57	0.49	1.48
VAL25	0.96	1.02	1.02	0.87	0.97	1.55
VAL26	0.95	1.04	1.02	0.95	0.96	1.59
VAL27	0.92	0.96	0.93	0.87	0.86	1.14

e. Marital Status

	Marr.	Sing.	F
VAL15	0.66	0.77	5.83*
VAL16	0.53	0.66	8.04*
VAL17	0.32	0.47	10.01*
VAL18	1.03	1.12	7.39*
VAL19	0.93	0.94	0.02
VAL20	0.86	0.80	1.39
VAL21	0.99	0.98	0.02
VAL22	1.00	1.04	0.71
VAL23	1.30	1.38	2.81
VAL24	0.47	0.49	0.25
VAL25	0.98	0.98	0.01
VAL26	0.99	1.00	0.12
VAL27	0.91	0.92	0.08

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*probability of F is less than .05

Table 6 continued

f. Age category

	<35	35-44	45-54	55+	F
VAL15	0.68	0.65	0.62	0.80	3.89*
VAL16	0.61	0.47	0.50	0.65	4.29*
VAL17	0.42	0.33	0.30	0.42	2.14
VAL18	1.07	1.08	1.05	1.04	0.30
VAL19	0.91	0.95	0.96	0.91	0.46
VAL20	0.74	0.87	0.93	0.86	3.30*
VAL21	0.91	1.01	1.01	1.02	1.95
VAL22	1.01	1.04	1.01	1.00	0.19
VAL23	1.47	1.32	1.33	1.20	6.77
VAL24	0.38	0.48	0.46	0.58	4.22*
VAL25	0.94	1.02	1.05	0.93	2.76*
VAL26	0.92	1.01	1.05	1.00	2.94*
VAL27	0.84	0.92	0.99	0.92	2.55

g. School age child in home?

	No	Yes	F
VAL15	0.73	0.64	4.52*
VAL16	0.57	0.55	0.27
VAL17	0.38	0.36	0.15
VAL18	0.08	0.04	1.51
VAL19	0.94	0.91	0.82
VAL20	0.83	0.86	0.53
VAL21	0.99	0.97	0.34
VAL22	1.02	1.02	0.00
VAL23	1.30	1.37	2.67
VAL24	0.51	0.44	2.76
VAL25	0.96	1.00	1.08
VAL26	1.00	0.98	0.20
VAL27	0.93	0.89	0.79

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*probability of F is less than .05

Table 6 continued

h. Education Category (years)

	<=11	12	13-15	16	17+	F
VAL15	0.77	0.75	0.69	0.62	0.59	2.82*
VAL16	0.68	0.64	0.46	0.58	0.45	5.12*
VAL17	0.53	0.42	0.33	0.28	0.28	4.27
VAL18	1.05	1.07	1.09	1.09	1.03	0.55
VAL19	0.89	0.88	0.99	0.96	0.97	1.41
VAL20	0.90	0.81	0.86	0.82	0.84	0.62
VAL21	1.05	0.94	1.00	1.03	0.94	1.41
VAL22	1.04	0.96	1.05	1.03	1.05	1.10
VAL23	1.30	1.32	1.42	1.30	1.29	0.96
VAL24	0.58	0.43	0.46	0.57	0.43	2.34
VAL25	0.98	0.97	1.00	0.99	0.96	0.14
VAL26	1.05	0.98	0.99	0.97	0.95	1.06
VAL27	0.94	0.93	0.93	0.87	0.88	0.50

i. Race

	Nonwh	White	F
VAL15	0.76	0.69	0.50
VAL16	0.71	0.56	2.35
VAL17	0.55	0.36	4.18*
VAL18	1.09	1.06	0.20
VAL19	0.91	0.93	0.07
VAL20	0.78	0.84	0.43
VAL21	1.04	0.98	0.65
VAL22	1.02	1.02	0.00
VAL23	1.33	1.33	0.00
VAL24	0.57	0.47	1.06
VAL25	0.95	0.98	0.11
VAL26	1.00	0.99	0.03
VAL27	0.83	0.92	1.03

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*probability of F is less than .05

Table 6 continued

j. Religious Preference

	Catholic	LowProt	HighProt	NonProt	South. Bapt.	Other Bapt.	None	F
VAL15	0.66	0.70	0.66	0.76	0.69	0.65	0.74	0.32
VAL16	0.56	0.55	0.47	0.56	0.63	0.51	0.53	0.90
VAL17	0.44	0.33	0.44	0.37	0.38	0.28	0.42	0.90
VAL18	1.07	1.06	0.97	1.20	1.08	0.94	1.09	1.74
VAL19	0.94	0.96	0.88	0.94	0.96	0.92	0.76	1.55
VAL20	0.80	0.88	0.98	0.71	0.84	0.78	0.77	1.12
VAL21	0.90	1.01	0.98	0.95	1.00	1.03	0.95	0.79
VAL22	1.05	1.02	0.98	0.95	1.04	0.97	0.96	0.45
VAL23	1.39	1.29	1.34	1.18	1.33	1.30	1.41	0.66
VAL24	0.57	0.48	0.46	0.73	0.43	0.50	0.36	1.81
VAL25	1.00	0.96	0.98	1.09	1.01	0.97	0.91	0.70
VAL26	1.04	1.02	0.95	1.00	0.98	0.89	0.96	1.09
VAL27	0.94	0.95	0.83	0.86	0.94	0.85	0.81	1.24

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*probability of F is less than .05

Table 6 continued

k. Strength of Religious Identification

	Very Strong	Somewhat Strong	Somewhat Weak	Very Weak	F
VAL15	0.72	0.63	0.71	0.70	1.08
VAL16	0.60	0.54	0.56	0.42	1.16
VAL17	0.40	0.35	0.29	0.41	1.05
VAL18	1.06	1.02	1.01	1.06	0.87
VAL19	0.97	0.90	0.93	0.91	0.97
VAL20	0.91	0.79	0.82	0.85	1.84
VAL21	1.00	0.95	1.02	1.06	0.81
VAL22	1.06	0.97	1.04	1.00	1.45
VAL23	1.33	1.27	1.32	1.58	2.17
VAL24	0.50	0.42	0.57	0.63	2.26
VAL25	1.00	0.96	1.03	1.03	0.63
VAL26	1.01	0.98	0.98	0.91	0.78
VAL27	0.95	0.88	0.92	0.91	0.88

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Table 6 continued

1. Total Household income (thousands of dollars)

	less than 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	40 to 50	over 50	F
VAL15	0.63	0.92	0.76	0.72	0.72	0.76	0.66	0.58	0.62	2.54*
VAL16	1.00	0.77	0.62	0.49	0.63	0.65	0.48	0.54	0.44	4.48*
VAL17	0.74	0.52	0.31	0.45	0.37	0.36	0.33	0.32	0.28	2.54*
VAL18	1.09	1.13	1.02	1.11	1.08	1.06	1.07	0.97	1.04	0.82
VAL19	0.72	0.85	0.98	0.88	0.95	0.94	0.89	1.00	0.96	0.95
VAL20	0.79	0.81	0.84	0.80	0.74	0.80	0.90	0.84	0.88	0.54
VAL21	1.05	0.98	0.88	0.95	1.02	1.01	0.91	1.04	1.01	0.86
VAL22	1.19	1.02	0.93	1.05	1.00	0.10	0.97	1.01	1.03	0.89
VAL23	1.43	1.28	1.26	1.29	1.33	1.31	1.37	1.37	1.30	0.34
VAL24	0.76	0.49	0.50	0.49	0.35	0.55	0.41	0.44	0.48	1.36
VAL25	0.90	1.00	1.10	0.94	0.86	1.00	0.98	0.94	1.02	1.27
VAL26	1.14	0.98	0.92	0.95	0.95	1.01	1.03	0.90	0.98	1.24
VAL27	0.95	0.92	0.95	0.89	0.81	0.96	0.87	0.92	0.93	0.63

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*probability of F is less than .05

Table 6 continued

	m. Have you ever been a teacher?			n. Sex		
	Yes	No	F	Female	Male	F
VAL15	0.64	0.71	1.81	0.74	0.65	4.89*
VAL16	0.48	0.59	4.94*	0.63	0.51	7.60*
VAL17	0.31	0.39	3.04	0.42	0.32	5.42*
VAL18	1.06	1.06	0.01	1.07	1.05	0.32
VAL19	0.97	0.92	1.53	0.93	0.93	0.00
VAL20	0.89	0.83	1.60	0.87	0.81	1.99
VAL21	1.00	0.98	0.24	1.02	0.95	3.91*
VAL22	1.03	1.01	0.18	1.06	0.98	4.01*
VAL23	1.26	1.35	2.51	1.34	1.32	0.24
VAL24	0.52	0.47	1.10	0.52	0.44	3.30
VAL25	0.96	0.98	0.25	1.00	0.95	2.31
VAL26	0.95	1.00	1.74	1.03	0.94	8.24*
VAL27	0.87	0.93	1.91	0.95	0.88	4.14*

VAL15 = Democracy
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APPENDIX

APPENDIX C

Special Report:

Summary of Telephone Survey Data

Expectations of High School Graduates
Telephone Survey Data Summary

A Special Report
Prepared from Data Collected by the
Survey Research Center
University of Kentucky
Spring, 1989

for

The Council on School
Performance Standards

by

Roger Pankratz
Executive Director

Description of Data Summary

The following special report summarizes the data from 637 general population Kentucky residents and 201 opinion leaders on 45 questions each describing a possible expectation of a high school graduate. The data was collected through a telephone survey by the Survey Research Center, University of Kentucky. A description of the telephone survey is described in a report "Expectations of High School Graduates" by the Survey Research Center, June 1989. For each question, respondents chose one of the following options: the expectation should be required of (a) nearly all graduates, (b) 2/3's of all graduates, (c) 1/3 of all graduates, or (d) less than 1/3 of all graduates. The summary shows the percent of respondents selecting option (a) above and the percent selecting option (a) and (b).

This special report summarizes data in a format not presented in the Survey Research Center Report. Specifically, it shows the percent of respondents believing the objective or competency should be expected by a higher proportion of high school graduates.

The number of respondents in each group for which data was summarized is shown below.

Group	Number of Respondents
General Population	637
Chief Executive Officers	22
Personnel Directors/Employment Counselors	23
Chamber of Commerce Leaders	23
School Superintendents	22
School Board Chairs	22
PTA Leaders	22
Prichard Committee Members	23
State Legislators	22
College Faculty	22
K-12 Teachers	30

Basic Reading, Writing, Speaking, and Math Skills

Question 3a. What about writing a business letter to a potential employer with correct form, punctuation, and grammar?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
72	80	93	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.37	1.26	1.32	1.36	1.26	1.50	1.14	1.25	1.22	1.21	1.13	1.11

Question 3b. How about being able to make a 15-minute speech in a public meeting using correct grammar and expressing ideas clearly?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
39	37	75	82

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.91	1.86	1.77	2.23	1.91	1.91	1.95	1.55	1.70	1.95	1.87	1.67

Question 3c. What about being able to compute actual consumer cost of different installment purchase plans for an appliance or a car?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
54	65	83	93

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.67	1.44	1.48	1.45	1.83	1.41	1.41	1.30	1.39	1.53	1.26	1.24

Question 3d. Understanding an owner's manual well enough to accurately follow instructions?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
74	75	91	97

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.36	1.29	1.41	1.27	1.39	1.18	1.36	1.20	1.22	1.39	1.26	1.32

Composite 3a - 3d

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.57	1.47	1.48	1.58	1.60	1.50	1.48	1.32	1.38	1.54	1.38	1.28

Learning How to Think and Solve Problems

Question 4a. Being able to recognize a problem and to describe the information needed to solve it?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
59	66	88	99

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.55	1.39	1.55	1.45	1.35	1.55	1.27	1.10	1.39	1.42	1.43	1.47

Question 4b. Being able to find health, employment, and consumer information and being able to use information sources?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
68	72	90	97

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.43	1.32	1.36	1.55	1.30	1.45	1.32	1.15	1.26	1.16	1.30	1.33

Question 4c. Being able to imagine alternate ways to solve a problem?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
56	55	86	95

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.60	1.51	1.55	1.77	1.57	1.59	1.50	1.20	1.43	1.42	1.52	1.39

Question 4d. Being able to choose the best solution to a problem based on available information?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
64	69	93	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.43	1.34	1.50	1.41	1.35	1.59	1.32	1.10	1.43	1.21	1.17	1.26

Composite 4a - 4d											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.50	1.39	1.49	1.55	1.39	1.55	1.35	1.14	1.38	1.30	1.36	1.38

Understanding and Using Computers and Technology

Question 5a. Being able to type or operate a computer keyboard?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
36	40	79	83

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.87	1.79	1.86	1.82	1.78	1.95	1.82	1.65	1.78	1.84	1.59	1.89

Question 5b. Being able to use computer programs to write letters, solve problems, and make charts and graphs?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
23	18	67	63

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.14	2.22	2.18	2.50	2.30	2.18	2.41	1.85	2.22	2.11	2.23	2.22

Question 5c. Being able to write computer programs that will store, retrieve, and manipulate information?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
13	6	46	31

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.54	2.83	2.86	3.05	2.87	2.67	3.14	2.30	2.83	2.76	3.05	2.58

Composite 5a - 5c

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.19	2.29	2.30	2.45	2.32	2.29	2.45	1.93	2.28	2.35	2.29	2.26

Learning About Government, Politics, and Economics

Question 6a. Being able to describe the process of running for a political office and getting elected?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
33	43	59	79

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.20	1.82	2.05	2.09	1.83	2.14	1.55	1.60	1.57	1.74	1.74	1.72

Question 6b. Being able to describe the process of protesting the rezoning of an area?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
32	35	64	73

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.14	1.97	2.27	2.23	2.09	2.14	1.55	1.80	1.70	2.22	1.91	1.94

Question 6c. Being able to describe the criminal and civil court system and the consequences of being convicted?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
53	64	79	95

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.72	1.68	1.73	1.59	1.83	1.91	1.59	1.65	1.78	1.47	1.52	1.53

Question 6d. Being able to describe how banks and other lending agencies establish credit, make loans, and charge interest?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
60	64	86	95

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.56	1.44	1.50	1.32	1.39	1.73	1.27	1.25	1.65	1.58	1.26	1.84

Question 6e. Being able to describe the legal responsibilities of owning property such as a car, house, land, or a business?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
68	74	91	95

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.44	1.34	1.27	1.45	1.35	1.55	1.18	1.10	1.48	1.37	1.30	1.28

Composite 6a - 6e

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.80	1.65	1.76	1.74	1.70	1.89	1.43	1.48	1.63	1.70	1.55	1.63

Learning about the Sciences, our Environment and the Work of Scientists?

Question 7a. Being able to apply scientific ideas and principles to solve everyday problems.

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
40	32	78	83

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.85	1.87	2.14	1.86	1.74	2.09	1.68	1.55	1.87	2.11	1.87	1.58

Question 7b. Being able to understand how the human body functions so one can make sound health and medical decisions.

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
63	73	85	92

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.55	1.37	1.55	1.45	1.39	1.82	1.18	1.05	1.30	1.39	1.22	1.17

Question 7c. Being able to deliver a convincing argument at a town meeting on hazards of improper waste disposal.

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
35	21	68	65

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.03	2.21	2.18	2.32	2.26	2.32	2.27	1.75	2.22	2.32	2.22	2.06

Question 7d. Being able to read and understand articles in scientific magazines like Scientific American.

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
27	14	62	55

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.17	2.38	2.50	2.36	2.23	2.45	2.33	1.95	2.57	2.56	2.52	2.35

Composite 7a - 7d											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.89	1.96	2.13	2.00	1.90	2.17	1.88	1.57	1.99	2.06	1.96	1.79

History, Literature, the Arts, Languages, and Geography

Question 8a. Being able to describe the history of one's own culture in relation to the history of America?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
49	48	79	84

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.77	1.72	1.76	2.05	1.70	1.86	1.64	1.30	1.70	1.79	1.65	1.67

Question 8b. Being able to understand the likenesses, differences, and contributions of major ethnic groups in the United States, including Anglo Saxon, black, hispanic, native American, and Asian?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
38	41	71	80

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.95	1.83	1.73	2.00	1.91	2.27	1.82	1.45	1.57	1.84	1.83	2.05

Question 8c. Being able to read and interpret literature in relation to the culture of people and the time it was written?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
31	27	67	74

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.08	2.02	1.95	2.32	2.26	2.32	1.73	1.55	1.87	2.11	2.04	2.05

Question 8d. Being able to communicate with people from another culture using a foreign language?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
14	12	42	49

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.57	2.47	2.64	2.68	2.61	2.55	2.76	1.90	2.30	2.32	2.48	2.56

Question 8e. Being able to actively participate in one of the fine arts such as music, art, drama, or dance for enjoyment?

Percent of Respondents

Nearly all graduates should achieve		*Two-thirds or more graduates should achieve*	
General Population	**Opinion Leader**	**General Population**	**Opinion Leader**
30	28	65	63

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.09	2.12	2.14	2.23	2.35	2.36	2.00	1.65	2.00	2.11	2.26	2.17

Composite 8a - 8e

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
2.09	2.03	2.07	2.25	2.17	2.27	1.98	1.57	1.89	2.03	2.05	2.08

Understanding Human Behavior, Developing Self-Esteem, Relating to Other People, and Becoming a Responsible Person

Question 9a. Being able to describe what is acceptable and unacceptable behavior in different situations?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
72	82	93	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.38	1.21	1.18	1.18	1.17	1.64	1.14	1.00	1.23	1.26	1.09	1.16

Question 9b. Being able to cooperate as a contributing member of a group such as a committee, choir, or athletic team?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
59	71	92	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.52	1.33	1.45	1.14	1.22	1.77	1.18	1.25	1.13	1.42	1.39	1.32

Question 9c. Being able to demonstrate the ability to resolve conflicts in a nonviolent manner?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
72	84	91	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.38	1.18	1.18	1.14	1.26	1.36	1.05	1.10	1.22	1.26	1.04	1.22

Question 9d. Knowing what you're good at and using your strengths to develop yourself and help others?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
78	81	94	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.29	1.20	1.27	1.23	1.22	1.27	1.09	1.05	1.18	1.37	1.13	1.16

Composite 9a - 9d											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.38	1.23	1.27	1.17	1.22	1.51	1.11	1.10	1.19	1.33	1.16	1.17

Work Employment and Earning a Living

Question 10a. Being able to complete job applications and give a good job interview?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
83	92	95	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.23	1.13	1.05	1.14	1.17	1.41	1.09	1.00	1.13	1.05	1.04	1.16

Question 10b. Being able to describe a career or education plan for a period of up to five years after high school?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
54	46	85	91

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.67	1.67	1.68	1.50	1.70	2.09	1.55	1.50	1.65	1.53	1.78	1.79

Question 10c. Being able to demonstrate the education and technical skills to get a job beyond the minimum wage level?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
62	62	91	96

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.48	1.44	1.50	1.36	1.43	1.82	1.36	1.25	1.50	1.26	1.39	1.63

Composite 10a - 10c

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.46	1.41	1.41	1.33	1.43	1.77	1.33	1.25	1.44	1.28	1.41	1.53

Personal Finances, Household Management, Parenting, and Family Responsibilities

Question 11a. Being able to open a checking account, establish credit, and evaluate insurance options?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
77	86	95	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.29	1.20	1.18	1.23	1.17	1.50	1.09	1.20	1.17	1.11	1.09	1.21

Question 11b. Being able to understand and describe the process and obligations for finding, renting, or buying a place to live?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
75	80	94	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.32	1.23	1.14	1.32	1.26	1.36	1.18	1.10	1.22	1.16	1.26	1.17

Question 11c. Being able to develop a plan for managing a personal and family budget?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
73	76	92	93

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.38	1.33	1.32	1.41	1.30	1.59	1.23	1.15	1.30	1.32	1.35	1.32

Question 11d. Being able to describe what it means to be a good parent and the financial, moral, and legal obligations of parenthood?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
77	83	92	96

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.32	1.23	1.14	1.18	1.27	1.50	1.14	1.05	1.22	1.26	1.26	1.26

Composite 11a - 11d											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.32	1.24	1.19	1.28	1.25	1.49	1.16	1.13	1.23	1.21	1.24	1.22

Health and Fitness, Including Drug and Alcohol Education

Question 12a. Being able to describe health practices that contribute to fitness and maintain wellness?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
73	84	94	98

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.36	1.19	1.23	1.18	1.23	1.45	1.05	1.10	1.13	1.16	1.13	1.16

Question 12b. Being able to describe the physical, psychological, and legal consequences of substance use and abuse?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
76	86	92	99

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.33	1.16	1.18	1.18	1.13	1.27	1.23	1.00	1.22	1.11	1.04	1.11

Question 12c. Being able to describe the major diseases and ailments in our country that are a threat to our health and well being?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
66	68	89	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.47	1.38	1.36	1.27	1.35	1.64	1.45	1.20	1.43	1.26	1.39	1.47

Question 12d. Being able to actively participate in a personal plan for physical fitness and the wise use of leisure time?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
61	70	89	96

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.52	1.36	1.32	1.36	1.43	1.23	1.23	1.20	1.39	1.42	1.57	1.26

Composite 12a - 12d											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.41	1.27	1.27	1.25	1.26	1.40	1.24	1.13	1.29	1.24	1.28	1.25

Self-Sufficiency

Question 13a. Being able to demonstrate the ability to learn new things on one's own?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
61	63	90	95

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.51	1.42	1.41	1.45	1.52	1.55	1.29	1.10	1.43	1.74	1.30	1.42

Question 13b. Being able to set goals, develop a plan, and work toward those goals?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
69	67	92	97

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.40	1.39	1.36	1.45	1.43	1.55	1.27	1.05	1.48	1.53	1.35	1.32

Question 13c. Being able to demonstrate self discipline and good time management?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
68	67	90	97

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.44	1.37	1.45	1.45	1.39	1.45	1.24	1.10	1.43	1.53	1.26	1.26

Question 13d. Knowing what one believes and being able to defend one's beliefs with logical arguments?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
64	66	89	96

Comparison of Group Mean Scores Lower scores mean the outcome should be required of a greater proportion of graduates											
General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.49	1.37	1.59	1.29	1.39	1.45	1.36	1.15	1.39	1.47	1.26	1.26

Question 13e. Being able to demonstrate adaptability and flexibility in new situations?

Percent of Respondents			
Nearly all graduates should achieve		Two-thirds or more graduates should achieve	
General Population	Opinion Leader	General Population	Opinion Leader
59	66	88	98

Comparison of Group Mean Scores
Lower scores mean the outcome should be required of a greater proportion of graduates

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.54	1.37	1.50	1.41	1.30	1.45	1.27	1.10	1.43	1.42	1.43	1.42

Composite 13a - 13e

General Population	Opinion Leaders	Chief Executive Officers	Personnel Directors	Chamber of Commerce	School Board Chairs	School Supts.	PTA Chair	Prichard Committee	Legislators	College Faculty	Teachers K-12
1.47	1.38	1.46	1.43	1.41	1.49	1.30	1.10	1.43	1.54	1.32	1.34

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APPENDIX D

Elementary, Middle, High and Vocational School Task Force Reports

WKU- Printing paid from state funds, KRS 57.375

OUTCOMES FOR ELEMENTARY STUDENTS:

REPORT OF THE ELEMENTARY TASK FORCE

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June 27, 1989

Outcomes for Elementary Students

Introduction

The Elementary Task Force was charged with determining the role of the elementary school in developing high school graduates who meet the expectations revealed in the Survey of Expectations for High School Graduates. Our goal was to describe what progress, at the end of grade 4, students should have made toward attainment of the outcomes deemed important for high school graduates by the Kentuckians who responded to the survey. The Elementary Task Force, a group of six composed of two elementary teachers, an elementary principal, an elementary supervisor, a teacher educator, and a Kentucky State Department representative, based their work on the following assumptions.

All Children Can Succeed. Children arrive at school with widely differing backgrounds of knowledge and experience. In spite of these differences, all children can be successful in the elementary school, if the school expects them to succeed and designs learning experiences which enable them to do so.

Children are Meaning Seekers. Children are naturally curious and inquisitive; they are seeking to make sense of their world and they strive constantly to acquire the information they need in order to do so. They have inquiring, exploring minds and enthusiasm for learning. Thus, the goal of the elementary school should be to nurture and extend this natural love of learning and to show children how the knowledge and skills offered by the school can help them continue to make sense of and to gain increasing control over the world in which they live.

Children Move from Egocentrism to Broader Understanding. Even though elementary children are "seekers of meaning," they are highly egocentric and possess limited ability to conceptualize and understand alternative perspectives in solving problems or to anticipate long-range consequences when making decisions. Due to their limited knowledge and experience, they often lack a conceptual framework within which to integrate and relate new information and experience. The role of the elementary school is to direct and focus the natural characteristics of children to help them better understand and function in their personal and social worlds. To do so requires setting goals and designing curriculum that lead the children from egocentric, random observations to a broader and more structured understanding of their world.

Based upon these assumptions about the nature of young children, the results of the survey, and their own professional knowledge and experience as educators, the Elementary Task Force developed a general description of the characteristics and abilities of the child at the completion of grade 4, the exit outcomes the fourth grader should have attained, the entry level skills which will enable the learner to attain these outcomes, and implications of these outcomes for assessment and curriculum development in the elementary school.

General Description of the Elementary Student

The Elementary Student. The Middle School Task Force believes that upon completion of middle school, the student should be a confident risk taker who possesses a command of basic literacy and numeric skills and who has the ability to solve problems and to work as a contributing member of a group. The Elementary Task Force agrees with this description and believes that the development of these abilities and characteristics begins in the elementary school.

Toward this end, students should leave the elementary school having attained the following outcomes:

1. Strong self-esteem and the confidence which enables them to take risks and to try alternative solutions to problems

2. A firm foundation in the basic skills of reading, writing, speaking and mathematics, and the knowledge and ability to apply these basic skills to the solution of problems both within the school setting and in everyday life outside of school

3. Problem-solving skills, including the ability to identify a problem, to develop a plan for solving the problem, to locate the relevant information, to solve the problem, and to evaluate the solution

4. The ability to work together in group settings with students of different genders, race, ethnicity, ability and interest.

These four outcomes are so highly interrelated that it is not possible to separate them. For example, success in learning the basic skills of reading, writing, speaking, and mathematics and experience in defining and solving problems independently and in groups contribute significantly to the development of strong self-esteem.

In addition to learning basic skills, elementary students must learn to apply these skills to problem-solving situations. In the elementary school, many opportunities exist for learning a problem-solving approach in various areas of the curriculum since all areas involve identifying a problem; developing a plan for solving the problem; locating the relevant information; and organizing, presenting and evaluating, the information.

In other words, these outcomes are mutually reinforcing. Students learn problem-solving skills within the context of basic skill instruction. At the same time, applying the basic skills to the solution of meaningful problems facilitates children's learning of basic skills. Furthermore, many of these problem-solving opportunities should occur in group settings in which children of varying interests and abilities work together to solve a problem. Experiences in working with a cooperative learning group to complete a project or to solve a problem lead to the development of successful problem-solving abilities. Such experiences also help preserve the natural curiosity and inquisitiveness of the preschool child.

In kindergarten and first grade, the school has the single best chance to convince students that the basic skills are relevant to their lives and, thus, are worth learning and that they have the ability to acquire these skills successfully. If the child does not experience success in his or her initial attempts to learn to read, write, and compute, it will be extremely difficult to overcome the negative effects of failure during later school years. Indeed, the child who is not successful in learning to read in the first or second grade is a prime candidate to become a high school dropout.

On the other hand, elementary students who are successful in learning basic skills and who are experienced in working independently and in groups to apply these skills in problem-solving situations are more apt to become the resourceful, adaptable, and responsible graduates described by the High School Task Force.

The Elementary School Environment. A democratic and participatory school environment is essential to the development of the types of knowledge, concepts, skills, and attitudes that form the foundation for participation in a democratic society. If students are to develop independent and cooperative problem-solving behaviors, they must be actively involved in a classroom environment in which these skills are practiced within the context of real-life problems which they help identify and define and then attempt to solve. What the Elementary Task Force wishes to stress is the broad application of these types of problem-solving skills to all areas of the curriculum: reading, writing, speaking, social studies, math, science, and the arts, and indeed, to all areas of life outside of school as well as within.

Of course, effective problem solvers must possess the knowledge of content necessary to solve a problem in a given area. A classroom which fosters a problem-solving approach to learning uses the problem as the context within which knowledge of content can best be taught. When learners have a reason for learning knowledge and skills, they learn them more effectively.

An effective elementary curriculum recognizes the developmental needs and interests of children and guards against the fragmentation of the curriculum which makes it difficult for students to integrate their learning in various content areas. Furthermore, the elementary school must withstand the forces which continually tend to push the curriculum down into lower grade levels so that what was previously taught in grade 1 is now introduced in kindergarten. Only those skills and concepts which are developmentally appropriate in terms of students' readiness to learn should be introduced at a given age.

Children must be viewed as active learners, not passive recipients of knowledge which the teacher attempts to pass on as a body of information. For example, children learn more about democracy by collaborating on a set of rules for appropriate classroom behavior or by electing their own class officers than they do by simply reading about elections and lawmaking.

Exit Outcomes for the Elementary Student

Within the context of an elementary school which actively involves students in a problem-solving approach and which integrates all areas of the curriculum and provides for the application of knowledge and skills at the developmentally appropriate time, the Elementary Task Force has identified the following outcomes to be attained by the students upon completion of grade 4.

Reading, Writing, Speaking and Mathematical Reasoning

Like the respondents to the survey, the Elementary Task Force agrees that the largest amount of time in the school should be devoted to attaining the outcomes of reading, writing, speaking, and mathematical reasoning. This is particularly true in the elementary school for it is at this level that the foundation for all future learning is laid. There is no more important goal for the elementary school than to help children learn the effective use of oral and written language. Langston Hughes noted, "The limits of my language are the limits of my world." The manner in which we use language governs our manner of thinking. Until we have facility with language, we are unable to think effectively and to manipulate abstract concepts.

Reading. In general, a good elementary reading program will develop motivated, skilled, and strategic readers, readers who not only can read, but do read. Upon completion of elementary school, students should be able to:

1. Read to gain information and to experience pleasure
2. Set their own purposes for reading and adjust their reading strategies to those purposes and to the type of text they are reading
3. Identify and understand the most important information in an expository text, such as a newspaper, magazine, or content area textbook
4. Identify and understand the most important information in a narrative text, such as character traits, character goals, setting, plot, and theme
5. Apply strategies for dealing with comprehension problems during reading
6. Evaluate the information in a text by relating it to their own knowledge and experience and to other texts on the same topic
7. Apply a combination of strategies for recognizing unfamiliar words.

Writing. The major goal of the elementary writing program should be to help students understand and use the three major steps of the writing process: planning, drafting, and revising. Upon completion of elementary school, students should be able to:

1. Plan their writing; that is, they should identify their audience and generate the information they want to communicate to their audience

2. Express their ideas in a first draft, focusing on communicating meaning

3. Revise the first draft to clarify meaning for the audience, by adding, deleting, or reorganizing information

4. Edit a text for mechanics, spelling, sentence structure, and punctuation if they are going to share it with an audience

5. Use the three-step process to retell a personal experience in a logical, coherent fashion

6. Use the three-step process to gather, organize, and present information on a given topic in a logical, coherent fashion

7. Write a personal letter to a friend or relative which communicates the desired information clearly and concisely.

Speaking. The need for adequate speaking skills is pervasive in all areas of life, for in almost all situations we need to make our needs and wishes known or to explain our point of view and convince others of the validity of that perspective. However, the school has traditionally spent more time trying to squelch talking than promoting the effective use of oral language. At the completion of grade 4, students should be able to:

1. Organize and present ideas to classmates in a logical, coherent fashion
2. Listen to and react to the ideas presented by others
3. Participate in a discussion or conversation
4. Use a form of oral English that is considered standard for the geographic region.

Mathematics. An effective elementary mathematics program, as recommended by the National Council of Teachers of Mathematics, focuses on problem solving with the use of manipulatives, communicating mathematics, and using mathematical reasoning. By the end of grade 4, students should be able to:

1. Analyze problems and develop an organized approach to solving problems
2. Communicate an understanding of a problem by describing, discussing and recording it
3. Relate mathematical language to everyday language
4. Justify and explain solution processes and answers
5. Multiply and divide using basic facts through 9
6. Solve one-step story problems using addition, subtraction, multiplication, or division of whole numbers
7. Identify the relevant information and correct operation needed to solve a story problem.

Thinking and Problem Solving

The elementary school provides many opportunities to help students learn critical thinking and problem solving within the context of reading, writing, mathematics, science, and social studies. In order to think, one must have something to think about. Thus, we recommend that teachers teach thinking skills within the context of real problems in which students need to use the knowledge and processes of the various content areas rather than through the use of programs which try to teach thinking skills in artificial, contrived situations. We recommend further that teachers help students understand how the problem-solving process is similar across all areas of the curriculum.

At the completion of grade 4, students should be able to apply the steps in the problem-solving process to developmentally appropriate problems in the areas of mathematics, science, and social studies and to use reading, writing, and speaking as they gather and synthesize the relevant information and present the solution. They should be able to:

1. Identify and explain the problem when presented with a situation in the areas of science, math, or social studies
2. Develop a plan for solving the problem which displays an understanding of the problem-solving behaviors typically used in a given discipline
3. Locate, synthesize, and organize the relevant information
4. Develop and present the solution in oral or written form
5. Evaluate the effectiveness of the solution
6. Develop alternative solutions if necessary.

Work, Employment, and Earning a Living

Working in a job which one finds interesting and fulfilling is one of the major contributors to a happy and successful life. Thus, it is not surprising that the general population places great emphasis on preparing students for the world of work. In our rapidly changing society, it is not possible for the elementary school to teach students the specific skills which they will need in a given work setting. Not only does each work setting vary in the nature of the specific skills needed, but also the nature of various jobs changes rapidly as technological advances are made.

In general, it appears that the major contribution elementary schools can make to the preparation of students for the world of work is to help them become adaptable and flexible people who possess the skills to find out about available jobs, the requirements for those jobs, and where they may acquire the qualifications for those jobs. If students learn the basic reading, writing, speaking, and mathematical skills in the elementary school, then they will be able to learn the more specific work-related skills at the time they need them.

Work-related outcomes that the elementary student should have acquired upon completion of grade 4 are:

1. An understanding of and the ability to explain the importance and dignity of work

2. A demonstration of the ability and willingness to complete a task to the best of their ability and to exhibit pride in the successful completion

3. The ability to identify different types of occupations which might be compatible with their interests and aptitudes.

Practical Living and Family Responsibility

At a time when we are threatened with the dissolution of the traditional American family, it is increasingly important that we help children understand the importance of families to our mental and physical health and help them develop skills for coping with the changes which characterize modern American families.

To enable them to become responsible family members who are able to contribute to the well-being of the family and the society as a whole, students by the end of fourth grade should be able to:

1. Explain the importance of loving and helping care for other family members
2. Describe ways they can help with household tasks and contribute to the well-being of the family unit
3. Describe ways that families can have fun together
4. Describe and roleplay ways to resolve disagreements between siblings and with their parents
5. Describe the appropriate role of parents in providing food, shelter, clothing, love, and security to children
6. Describe and roleplay ways to adjust to the loss of or addition to the family through birth, death, divorce, or remarriage
7. Simulate and roleplay helping to make decisions regarding how money in the family budget should be allocated to cover necessities first, then less vital items.

Health and Fitness

Although reports indicate that adults are becoming more concerned about health and fitness, only about ten percent of the children in our schools are able to pass the fitness test of the President's Council on Physical Fitness, and growing numbers of children are overweight due to improper diet and lack of exercise.

Time for physical activity needs to be built into the school day with time and training related to appropriate exercise to build and maintain a healthy body. Sports and games which can become lifelong activities need to be introduced with less emphasis placed on team sports which are more difficult to continue into adulthood.

By the end of grade 4, students need to have attained the following health related outcomes:

1. Plan and follow a healthy diet

2. Engage in enjoyable physical activities which they can do individually or with a partner in order to develop and maintain fitness

3. Explain the adverse effects of tobacco, alcohol, and drugs and ways to avoid them in their own lives

4. Demonstrate appropriate personal hygiene and get regular medical and dental check-ups

5. Explain why it is important to feel good about themselves and ways that they can help other family members and classmates feel good about themselves

6. Understand and explain that everyone experiences feelings and emotions and demonstrate acceptable ways of expressing these feeling and emotions.

Human Behavior and Social Responsibility

Most of the outcomes related to human behavior and social responsibility are the joint responsibility of the home and the school. Although these outcomes were considered highly important by the respondents in the survey, they indicated that the home was primarily responsible for the development of many of these outcomes. Nevertheless, the elementary school offers many opportunities for students to learn appropriate social behavior and responsibility. The social environment of the classroom is especially conducive to the teaching of behaviors which permit groups to work together and function effectively in our multicultural, interdependent society. It also presents many opportunities for students to learn nonviolent ways to resolve their differences, an especially important outcome in view of the impact of violence on television and the increasingly violent nature of American society.

At the completion of grade 4, students should have achieved the following outcomes related to understanding human behavior and behaving in socially responsible ways. They should be able to:

1. Explain and roleplay responsible and acceptable behaviors when presented with situations requiring decisions about appropriate behaviors

2. Explain and roleplay ways to resolve conflicts nonviolently and apply these behaviors to the resolution of conflicts in the classroom and on the playground

3. Explain why they need to respect legitimate authority and the role that authority plays in a well-functioning democracy

4. Explain, roleplay, and apply at school and at home acceptable ways to question authority and to bring about changes in regulations and laws

5. Explain, roleplay, and demonstrate the importance of honesty and integrity by telling the truth and keeping their word.

Government and Economic System

An appreciation for our democratic way of life is considered an important outcome of a high school education. The development of this and other attitudes and values begins in the preschool years, but elementary students are still in a highly formative stage; so the elementary school can and should serve as a laboratory for students to learn democratic norms and values and to engage in democratic participation and group cooperation.

When students complete grade 4, they should be able to:

1. Participate in making and obeying rules through participation in a democratic classroom

2. Explain in a simple way, by relating to their own experiences, some basic economic principles and concepts such as supply and demand, production and consumption, and labor and management

3. Appreciate and explain the value of money and the relation between work and money

4. Explain the importance of getting along with other countries and ways in which differences between countries can be resolved peacefully

5. Participate in a discussion about current national issues and think of ways that these issues might be resolved

6. Explain the importance of voting and other ways to participate in making decisions in a democracy and display these behaviors in classroom contexts.

Our Heritage and Other Cultures

For students to participate fully in the intellectual and cultural life of this society, they need to develop some understanding of history, geography, and the fine arts. Even though the fine arts were not rated as highly as verbal and quantitative skills by the respondents in this survey, elementary schools would be neglecting an important facet of the human experience if children were not given opportunities to engage in the fine arts.

Although elementary students are limited in their conceptual ability to understand the time and space relationships involved in history and geography, by the end of grade 4, they should be able to:

1. Name some of our country's most important historical figures and talk about some of their contributions
2. Discuss some of the pivotal events in our history such as the settling of our country and the Revolutionary War
3. Explain how some of these historical events relate to current events and affect the way we live now
4. Describe the major geographical regions of the United States
5. Name some of the major natural resources of their own state and community and explain how these resources affect the way people live their daily lives
6. Locate their own town on a map of Kentucky as well as some of the major cities in Kentucky
7. Locate Kentucky on a map of the United States
8. Locate the United States on a map of the world and on a globe.

By the end of grade 4, elementary students should have attained the following outcomes in literature and the fine arts and be able to:

1. Demonstrate an appreciation for and interpretation of ideas presented in various media including art, music, movement and dance, and literature.

2. Express their ideas in various media including art, music, movement, and dance

3. Name some of their favorite children's authors and some of the books they have read or heard by these authors and tell why they like these books and authors

4. Tell what they like about some of the illustrations in favorite well-known children's books

5. Identify universal themes such as friendship, love, helping, and good versus evil in some of the classic fairy tales, folktales, myths, legends, and fables as well as in contemporary children's classics.

Computers and Technology

The view of the respondents in the survey was that computers should receive less emphasis in the school curriculum than many of the other areas they were asked to rate. However, they did believe that the majority of high school graduates should learn to use computers and computer programs.

The Elementary Task Force agrees that the ability to use computers and the corresponding software will be increasingly important as technology assumes a more dominant role in our society. Students should become familiar and comfortable with the computer in the elementary school so that they will be able to learn more complex uses of the computer in the middle and high school.

The Elementary Task Force views the opportunity to use the computer for word processing as the single greatest advantage for elementary students. During the time when children's eye-hand coordination skills are so limited that composing is hindered by the slow and laborious nature of the handwriting process, they benefit from having access to the computer as they write.

Computers and calculators also have had revolutionary effects on the mathematics curriculum as they have freed students from spending so much time on laborious hand calculations. Once the concepts of addition, subtraction, multiplication, and division have been acquired and students have gained facility using these operations with one and two digit numbers, they can concentrate on problem solving and mathematical reasoning and the application of these concepts to larger numbers as the actual calculations can be done on the calculator or computer. Students no longer need to spend hours practicing the division and multiplication of large numbers; thus, they are able to spend more time using these operations in problem-solving situations.

At the end of grade 4, students should be able to:

1. Use computer software designed to help them learn the concepts and skills that are already part of the elementary curriculum
2. Use beginning keyboarding skills
3. Use a simple word processing program for composing and revising
4. Use a calculator to perform the calculations necessary to solve problems involving numbers larger than two digits.

Physical and Life Sciences

A surprising lack of emphasis was placed by the respondents in this survey on learning about science and the application of science principles. This lack of valuing is probably the result of the failure of the school to help students discover the application of these principles to their daily lives. The Elementary Task Force believes that learning about scientific principles and the inquiry approach to learning exemplified in the scientific method are vital skills for elementary youngsters. Indeed, if our society is to survive, scientific knowledge must be applied to the solution of some of the major problems in this society such as preserving the environment, curing major diseases, treating drug addiction, exploring space, and producing adequate food supplies.

At the completion of elementary school, students should be able to:

1. Make thoughtful, accurate observations
2. Generate reasoned and appropriate hypotheses
3. Make comparisons and identify similarities and differences
4. Classify objects and create logical categories
5. Gather data and make meaningful interpretations of the data
6. Design projects and experiments to test hypotheses
7. Explain that science is a process of discovery and ever-changing information rather than simply a body of facts or accepted "truths"
8. Explain that science is a means for acquiring information and for gaining increased control over one's environment.

Self-sufficiency

All of the outcomes discussed in this document should contribute to the development of a self-sufficient citizen. At the end of the fourth grade, elementary students should understand that a command of the basic skills of reading, writing, speaking, and mathematics is necessary for success in the middle and high school and in life outside of school. They should be able to maintain health and fitness, to manage their allowances, to resolve differences peacefully, to solve problems, and to adapt to changes in their lives.

Additional outcomes that are essential to self-sufficiency include:

1. The ability to explain and demonstrate that they are responsible for and must bear the consequences of their own actions

2. The ability to explain and demonstrate that their success or failure is the direct result of their own efforts.

Entry-Level Skills for Elementary Students

The elementary school receives and welcomes all children at the age of 5, regardless of experiential background. Five-year-olds vary greatly in their social, emotional, intellectual, and physical abilities; but the kindergarten teacher accepts them all and attempts to meet their varied needs.

Probably the most important prerequisite skill for success in the elementary school is oral language facility. Amazingly, nearly every child has already learned the most complex skill human beings ever learn; that is, the ability to understand and produce oral language. Furthermore, they have accomplished this amazing feat without any direct instruction but simply by using language in meaningful, contextualized situations in which it was needed in order to interact with the people around them. So, too, will they learn the written language skills of reading and writing if these skills are presented in meaningful contexts in which the child can see the relevance or function of what he or she is being asked to learn.

Recent research in literacy acquisition has shown that literacy is a social phenomenon. Children who grow up in highly literate home environments acquire reading and writing skills in much the same way they learned to speak. As they see the adults in their lives using reading and writing to accomplish the daily tasks around them, they, too, begin to learn reading and writing by attempting to read and write in contexts where these skills normally occur. They may begin by roleplaying themselves as readers and writers as they scribble and pretend to write a grocery list or a letter to grandmother. Or they may pretend to read their favorite storybook to their dolls, stuffed toys, or family members.

Even though these first efforts are merely approximations of reading and writing, the adults around them recognize and value these efforts. Thus, these children are highly motivated to read and write because they see the significant adults in their lives reading and writing and they want to participate in the literate activities of their family. For these children, learning to read and write is relatively easy.

However, an increasingly large percentage of our school population is arriving at school without the benefits of a highly literate home environment. Some areas of Kentucky suffer from extreme unemployment and poverty. Children growing up in the homes of poverty usually do not come to school with an understanding of the purposes and pleasures of print. For these children, learning to read and write will be more difficult. We have learned from past efforts such as Head Start that if we intervene early in the lives of these "at risk" children that they, too, can be successful as a result of participating in compensatory preschool experiences. Also full day kindergarten programs have been shown to be successful in helping these children learn some of the skills and concepts that more privileged children learn naturally at home.

The Elementary Task Force strongly recommends that more emphasis be given to preschool and to full-day, everyday kindergarten programs which help children from less fortunate homes acquire the necessary prerequisite skills for success in elementary school. Research has shown that the cost of compensatory preschool programs is much less than remedial programs or drop-out prevention programs in the upper grades. This is not only true in monetary terms but in human terms. It is far better to help children get off to a happy, successful start than to attempt to rescue them from frustrating failure and its consequent side effects.

Implications for the Future

To create high school graduates who are resourceful, adaptable, and responsible will require some major changes in Kentucky schools. At the elementary school level, the Elementary Task Force recommends the following changes.

Relevance and Functionality. It will be necessary for educators to understand the social and cultural nature of learning. That is, people learn to do what those around them are doing and the things that they see as useful in their lives. Schools must help students see how the knowledge and skills offered by the school are relevant and functional in their lives by showing them how what they are learning will contribute to their daily lives and give them greater control over their environments.

Active Involvement. Schools must create opportunities for students to be actively involved in their own learning. Students must be allowed to construct meaning; they should not be merely passive recipients of a body of information.

Integration of the Curriculum. Students must be helped to see the interrelationships among the areas they are studying. Schools currently offer a fragmented curriculum in which students study each subject at a specific time of day and have few opportunities to integrate what they are learning and to apply what they are learning to the solution of real-life problems.

Cooperative Learning. Schools must become laboratories for democratic participation in which students identify problems, set goals, and plan ways to achieve these goals. They must be allowed to work together in cooperative learning groups to arrive at the solution to these problems.

Compatible Assessment. Assessment must reflect these broad goals of learning rather than the narrow focus on isolated skills which has characterized assessment in the past. Since assessment drives instruction, schools will not change their instructional practices until assessment has been changed.

Proposed Learning Outcomes
for
Exiting Kentucky Middle School Students

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Proposed Learning Outcomes for Exiting Kentucky Middle School Students

Introduction

The assignment of the Middle School Task Force was to determine a profile of a student exiting the middle school including personal attributes, characteristics, and abilities. These outcomes are the prerequisites for attaining the expectations of Kentucky high school graduates. The task force studied the data from the statewide telephone survey, discussed the implications for the middle school, and added their professional judgment to develop this document. The task force believes that it is necessary to describe the transescent as a prerequisite to delineating outcomes of the exiting middle school student. In addition to reflecting the thinking of the task force, this document reflects the input of nationally recognized middle school experts and other middle school practitioners as well as the recommendations of professional associations.

Characteristics of the Middle School Child

The central purpose of the middle school is to provide for the development of the whole child. During the ages of 10 through 15, the normal transescent (early adolescent) experiences rapid growth and development physically, mentally, and socio-emotionally. The uniqueness of this age group, which is between childhood and adolescence, lies also in the vast differences between, among, and within these children; for they are developing and changing in each of these three areas at different rates, times, and with varied degrees of facility.

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Physical development is the most visible of these changes. It is normal for some children to enter pubescence as early as age 10 and for others as late as age 15. With this variation in normal physical development, there may be up to a six-year development of difference between an early maturing girl and a late maturing boy of the same age. Due to this variance, transescents are very aware of their own appearance and very concerned about being different from others in the age group. Also, due to rapid growth spurts, disproportionate growth of body parts, and skeletal and bone development, these students may appear to be uncoordinated, restless, and constantly moving. In actuality, many tend to be highly uncomfortable and in real pain if they are required to sit on hard seats for any extended period of time.

Socio-emotional changes are just as dramatic as the physical changes. Emotions of transescents are strongly tied to their physical growth and development. Because they are changing, they feel self-conscious and may lose their self-confidence. Thus, as they begin the road to adulthood, they may exhibit an exaggerated sensitivity to criticism. Acceptance by peers becomes more important as the transescents begin to affiliate more with peers than with the family. There is an increased need to communicate with peers which affects behavior in the traditional school setting. Affiliation with adults beyond the family also becomes important. While the need for feeling accepted by the peer group is strong, there is also a need for privacy and independence. Although behavior at times is quite mature, at other times it also may be quite childlike. This vacillation in behavior is as normal for this age group as it is confusing.

Intellectually, transescents are moving from mastery of concrete thinking to experimentation with abstract thinking. They are highly curious and prefer active as opposed to passive involvement. They are beginning to be capable of thinking about their own thinking and monitoring their own learning strategies. As in physical and socio-emotional development, there is a wide variation of cognitive development between students. Additionally, this varies within individual students. For example, they may be able to think abstractly in one area, but they may not be able to do so in another area. In areas where they are capable of abstract reasoning, they may not have that capability at all times. Furthermore, they are beginning to evaluate the values they have accepted in the past and are questioning and testing those values.

Taking into account all of the foregoing as normal and expected, the task of the middle school is to provide a program which is based upon the intellectual, socio-emotional, and physical needs and characteristics of the early adolescent. It should provide for success and continued growth.

Profile of the Exiting Middle School Student

As the Middle School Task Force strove to determine the descriptive characteristics of students prepared to exit the middle school, several areas surfaced out of the discussions and deliberations. Transescents' learning is inescapably tied to their developmental growth and characteristics, which form a basis for the desired profile. The task group found that the characteristics formulated into four broad areas. Although described separately, these areas are all interrelated as outgrowths and developments of one another.

First, the task group believes that it is important for students to become self-confident individuals. Students should be self-assured risk takers who have a positive self-concept. By this, it is meant that they will be aware of themselves and others. They will have a personal identity, accept themselves and others, recognize the needs and feelings of themselves and others, and be able to cope with these feelings. They will develop behavior that is sharing, nurturing, and caring. They will take responsibility for their own behavior. They will act as independent learners because they will be aware of their own strengths and weaknesses. They will be able to use these strengths and will set attainable goals. Furthermore, they will know that success is the result of persistence and effort rather than luck or circumstances. Thus, they will be able to take risks by exploring and trying new things. Additionally, they will be aware of and recognize the continuous changes and growth of all things.

The second broad characteristic is that of being a contributing member of a group. For this they must possess a group identity, utilize essential interactive skills, and understand the essential attributes of cooperation. As a result, they will be able to reflect on group processes. Because they will know their own strengths, they will be able to contribute to a team effort and pull their own weight as a valued team member. They will know and identify the consequences of acceptable and unacceptable behavior and recognize rights and responsibilities. Consequently, self-esteem will be enhanced by contributing to the success of the group.

Being beginning decision makers and problem solvers is the third characteristic. The students will demonstrate a degree of abstract thinking commensurate with their intellectual development. They will be able to identify when they do not know, what they know and do not know, and what they need to know. They will know where to find information, and they will be able to identify needed resources and use information sources. They will be able to request and offer assistance. Being able to inventory their own knowledge base, they will be able to reflect on their own learning processes and look at possible consequences. Other abilities include being able to identify and formulate problems, suggest possible solutions, and recognize the possibility of multiple solutions. Finally, exiting middle school students will be able to make decisions based on logic and reason. With these abilities at hand, they will view real-life situations as challenging problems rather than as insurmountable obstacles. As a result, these students will be able to identify areas they want to explore and to evaluate associated possibilities.

In support of the three preceding characteristics, students ready to enter the secondary school will have a command of basic knowledge. Possessing communication (reading, writing, listening, and speaking) skills and numeric skills is essential. With these essential tools, they will have learned fundamental concepts in the disciplines such as natural sciences, social sciences, arts, literature, and languages. They will possess learning skills and strategies adapted to their individual styles. Because curriculum has been interdisciplinary, they will understand the interdependence of knowledge and skills in all areas. Since the ability to use current technology is important for their future, they will have the capability to use that technology and will be adept and comfortable with it. Lastly, they will be familiar with a variety of interest areas.

In summary, these students will possess the necessary skills to achieve success. They will know who they are and what they can do. They will have the self-confidence and competence to try new things. They will believe that if they try hard enough and long enough, they can be successful. They will understand that cooperation can accomplish more than competition. They will know that what they say and do is important as well as what others say and do. Being respectful, responsive, and responsible will be important to them.

Outcomes for the Exiting Middle School Student

Outcomes for the exiting middle school student can be placed in two general categories: Process Performance Area Outcomes and Basic Knowledge and Skills Area Outcomes. Process Performance Area Outcomes represent the three key areas that are the focus of development for the middle school student: becoming a confident individual, becoming a contributing group member, and becoming a beginning problem solver. The processes and skills associated with these three performance areas will be taught and emphasized in all subject matter disciplines and basic skill areas. That is, developing self-confidence, participating in a group, problem solving, and having opportunities to engage in these processes will be integral parts of teaching mathematics, language arts, science, social studies, etc. Additionally, assessment of these Process Performance Area Outcomes must be addressed in an integrative fashion. For example, students might be asked to solve a specific problem requiring application of basic skills, knowledge, group process skills, and individual initiative.

The second category of outcomes, Basic Knowledge and Skills Area Outcomes, represents the traditional basic skills and subject matter disciplines with a life skills application. These outcomes are the knowledge and skills a student needs in mathematics, science, history, government, communication, health, fine arts, and technology to be able to solve problems, work in a group setting, and demonstrate confidence as an independent learner. Basic Knowledge and Skills Area Outcomes provide the bank of raw materials from which the student draws to perform meaningful tasks. Although Basic Knowledge and Skills Area Outcomes are what we have traditionally tested in measures of academic achievement, Process Performance Area Outcomes require the middle school student to use the knowledge he or she has acquired in a meaningful experience to produce a product or demonstrate a process. Process Performance Area Outcomes represent a higher level of both cognitive and affective functioning than we have attempted to assess previously in our schools.

Process Performance Area Outcomes

Becoming a Confident Individual

As the exiting eighth-grade school student leaves the middle school, he/she moves into an atmosphere at the high school level which is less explicit and secure. The student is expected to be more self-directed in both thoughts and actions. In order to succeed in high school and beyond, students will become secure in themselves and be willing to take the necessary risks which exist when trying something new.

The exiting middle school student will be able to:

- learn independently;
- recognize, accept, and manage feelings;
- demonstrate awareness of self and others;
- recognize the continuous change and growth of all living things;
- recognize own strengths and weaknesses, use strengths, and improve weaknesses;
- describe self in a realistic manner;
- accept self and recognize own needs;

- demonstrate willingness to try new things;
- demonstrate caring, nurturing, and sharing behavior;
- take responsibility for own behavior;
- set attainable goals; and
- persist in efforts.

Becoming a Contributing Member of a Group

Group membership is an important part of life both inside and outside of school. Our society is based upon the premise that people work together for the good of all. Employers are looking for individuals who not only have a strong definition of self, but who are also able to cooperate and work together.

The exiting middle school student will be able to:

- use essential group interactive skill;
- demonstrate understanding of the interdependence of members of a group;
- develop a group identity;
- demonstrate knowledge of acceptable and unacceptable behavior in the contexts of home, school, and community;
- use individual strengths to contribute to group effort;
- demonstrate understanding of the essential attributes of cooperation;
- pull own weight as a team member;
- reflect on group processes; and
- recognize rights and responsibilities of group membership.

Becoming a Beginning Problem Solver

Many of today's students are being prepared for occupations which do not exist at this time. It is no longer possible to provide students with the specific skills which will be needed in the future. However, it is vitally important that they be able to identify problems, seek information, and formulate solutions. Such skills will be invaluable in school, in private life, and in future work situations.

The exiting middle school student will be able to:

- begin to demonstrate abstract thinking;
- identify what they know and don't know;
- know when they don't know and identify what they need to know;
- identify and formulate problems;
- know where to find information and identify needed resources;
- use information sources and inventory own knowledge base;
- formulate possible solutions and know there may be more than one solution;
- evaluate consequences of different solutions;
- recognize the need to make decisions;
- understand how personal viewpoint impacts decisions;
- use logic as input in decision making;
- view life situations as challenging problems rather than insurmountable obstacles;
- reflect on own learning process; and
- cope with frustrations and obstacles.

The Basic Knowledge and Skills Area Outcomes

Basic Reading, Writing, Listening, and Speaking Skills

Communication is one of the most important skills used in school, work, and life. To be successful in present and future endeavors, it is important that our students be able to read, write, speak, and listen.

The exiting middle school student will be able to:

- apply the "writing process" for a variety of purposes and audiences;
- apply conventions of standard written English;
- organize ideas in written form;
- write a formal report;
- express themselves creatively, i.e., letters, journals, poetry, short stories;
- organize ideas and present them orally;
- interpret and evaluate in order to listen discriminately;
- participate in group discussion;
- read for enjoyment;
- read for information;
- comprehend main idea and purpose in a variety of written materials;
- interpret and evaluate to read critically;
- find personal relevance in literature;
- identify literary conventions and genres;
- express themselves clearly orally and in writing;
- understand the intent of the written and spoken word;
- accept worthwhile literature;

- utilize reading and writing to acquire knowledge, to think and to learn new skills; and
- apply reading, writing, speaking, and listening skills in real world contexts.

Basic Mathematics Skills

Mathematics both directly and indirectly influences our lives with applications ranging from determining the correct change from a purchase to the high technology required to launch a rocket into space. The interweaving of mathematics into the various aspects of life and the increasing demands of high technology require that our students be knowledgeable and comfortable with mathematics.

The exiting middle school student will be able to:

- discuss mathematical ideas;
- make and test hypotheses;
- collect data;
- use calculators and computers;
- make graphs;
- communicate results;
- represent mathematical concepts and processes symbolically, pictorially, and with concrete materials;
- use mathematics in other subject areas and situations outside the classroom;
- exhibit proficiency in both quantitative processes (e.g., estimation, computation) and nonquantitative processes (e.g., spatial relationships); and
- exhibit the development of basic ideas, skills and the algebraic thinking needed to function effectively in situations where mathematics can be applied.

Learning about Sciences, Our Environment, and the Work of Scientists

Understanding the scientific world will help us to improve the quality of our lives through the protection of the environment, application of scientific skills in daily life, and knowledge of the changes which occur in the world of science. As the technological demands of life increase, it becomes more important that we educate scientifically literate citizens.

The exiting middle school student will be able to:

- demonstrate awareness of and knowledge about the environment;
- demonstrate knowledge of implications of environmental conditions related to living;
- understand that natural phenomena display a wide variety of similarities and differences;
- understand that our natural environment is constantly undergoing change;
- understand that there is constancy in cause-and-effect relationships which makes change explainable;
- understand that the interactions of matter and energy determine the nature of the environment;
- understand related systems within systems which make up the universe;
- understand that natural phenomena are limited by the fundamental nature of matter and energy; and
- utilize the process skills of science: observing, describing, classifying, measuring, using numbers, using tables and graphs, predicting, inferring, analyzing/comparing, communicating, experimenting, formulating models, hypothesizing.

Learning about Government, Politics, Economics, History, and Geography

As citizens of the United States, we enjoy valuable rights and benefits. However, it is our duty to understand the responsibilities of citizenship and the functioning of the government that grant us those rights. Through a study of history and economics, understanding and appreciation of our society are increased.

The exiting middle school student will be able to:

- interpret government processes;
- demonstrate knowledge of rights and responsibilities of citizenship in a democracy;
- participate in student government processes;
- display knowledge of economic impacts on government and politics;
- identify the interrelatedness of economics and other life areas;
- demonstrate economic understandings of personal finances, consumerism, and the free enterprise system;
- demonstrate understanding of history and its impact on society; and
- display understanding of the impact of local, state, national, and international events on one's own area and one's self.

The Arts and Languages

The arts enhance our lives and provide another means of self-expression. An understanding of the impact of the arts will deepen our appreciation of man and nature. As the inhabitants and societies of the world become more interdependent, it becomes more important that we understand each other through our languages and our cultural expressions.

The exiting middle school student will be able to:

- interpret and display understanding of the arts for cultural understanding and impact, for life-long exploration, for personally rewarding experiences, and for enjoyment of self-expression;
- display respect for and awareness of languages other than English;
- use the arts for self-expression;
- understand various art forms; and

- understand the relationship of the arts to other areas (e.g., ballet technique and football skills).

Understanding and Using Computers and Technology

As the world becomes more dependent upon computers, it becomes more important that our students be able to use that technology. Responsible usage demands an appreciation of the rights and ethics of usage as well as an understanding of the technology.

The exiting middle school student will be able to:

- apply current technology;
- utilize word processing software for writing in all curricular areas;
- utilize data base software for learning in all curricular areas;
- use skill reinforcement and simulation software;
- use technology for problem solving in all areas of the curriculum;
- demonstrate facility in keyboarding; and
- demonstrate respect for the ethics, rights, and responsibilities of computer usage.

Work, Employment, and Earning a Living

The exiting middle school student is beginning to seriously think about future professional and occupational endeavors. The student should be broadening his/her understanding of the different opportunities and responsibilities of various career possibilities.

The exiting middle school student will be able to:

- display an awareness of an extensive variety of career opportunities and their requirements;
- demonstrate knowledge of personal strengths and interests as they relate to careers; and

- demonstrate attitudes and habits such as punctuality, reliability, responsibility, efficiency, and team work.

Personal Finances, Household Management, Parenting, Family Life, and Family Responsibilities

The responsibilities of adulthood begin to assume a new identity during the middle and high school years. Students become active consumers which requires the ability to make educated and responsible decisions.

The exiting middle school student will be able to:

- apply economic concepts of personal finances, consumerism, and the free enterprise system;
- demonstrate understanding of the importance of responsible group and family membership;
- identify and interpret advertising and media influences on consumerism and personal finances;
- demonstrate knowledge of the requirements and responsibilities of parenthood; and
- demonstrate knowledge of the responsibilities and consequences of sexual relationships.

Health and Fitness, Including Drug and Alcohol Education

The demands of society require that citizens understand and practice a healthy lifestyle. Students must enter high school with an appreciation of the benefits of health and a determination to maintain a strong body and mind.

The exiting middle school student will be able to:

- apply knowledge of a healthy lifestyle and wellness using current information and decision-making skills;
- demonstrate understanding of the impact and consequences of drugs and alcohol (chemical dependencies);
- demonstrate physical fitness; and

- participate in physical activities for own enjoyment.

Values Related to Outcomes

Although values are an important part of all educational pursuits, the home is commonly seen to be the most effective means for instilling values. However, this in no way diminishes the responsibility of the middle school for teaching and reinforcing values. This is especially true since early adolescents normally question previously accepted values and strive to develop their own. Furthermore, since they are extending affiliations to adults other than family, it should be the job of all adults in the middle school to reinforce values in all areas of the program. It is essential for the school to address these developmental needs, since this age of 10 through 15 is so important for developing the values, ethics, character, and citizenship of the future adult. The following values, as identified in the statewide survey, should be integrated into all curricula but not assessed as separated areas:

- democracy
- concern for the environment
- free enterprise system
- honesty and integrity
- respect and appreciation for ethnic and cultural differences
- service to society
- hard work and quality work
- self-esteem
- family life
- education and life-long learning
- respect for authority
- responsibility
- respect for individual rights and differences

Entry-Level Skills and Performance Levels

Prior to entering the middle school, exiting elementary school students should exhibit the following outcomes:

- attainment of the basic mathematics standards
- attainment of communication skills adequate for success in the middle school
- knowledge of home, community, and state
- awareness of the United States as a country
- understanding of rules and responsibilities as members of a school
- entry-level computer skills
- understanding the differences and values of others
- awareness level of health, lifestyle, cleanliness, nutrition, and communicable diseases
- basic understanding of the environment
- appreciation for the value of family and understanding of one's contributions
- awareness of family group roles

They should have participated in the following:

- problem solving and critical thinking
- "hands on" science emphasizing process skills
- broad variety in literature and the arts
- setting short-term goals
- extensive opportunities to work and learn with others

Implications for the Middle School of the Future

The implications for an outcomes-based program in the middle school are numerous and far reaching. Transescents must be prepared for a future that will be a radical departure from the world of today. They will need to solve present and emerging problems for which the needed skills and information do not yet exist. It is no longer possible to know everything there is to know or to learn everything there is to learn. This information explosion coupled with the changing nature of the world of work demands that the focus of desired school outcomes must be futures driven.

One of the most important aspects of the middle school of the future will be learning about one's self and others. To this end, the outcomes of understanding human behavior, developing self-esteem, relating to other people, and becoming a responsible individual should impact the middle school organization. Students will need to be organized in interdisciplinary teams within the school. Learning in this smaller community will provide students with closer relationships with adults and other students. Also, students should work in cooperative learning teams in instruction. This format will produce increases in knowledge and skills and will benefit human relations by teaching students to work in a team setting. Cooperation with others, rather than competition, should be stressed in all content areas and activities. No longer will students be grouped by ability. In most instances, they will work in mixed ability groups. These mixed ability groups will provide the vehicle for students to benefit from the experiences, talents, and strengths of others different from themselves.

Students should understand the relevance of learning by seeing that learnings are not just separate courses but ones that are all interrelated and connected. To this end, the curriculum should be interdisciplinary. For example, students might learn written communication in order to write letters to the editor of a local paper concerning a local issue they have studied in social studies. The curriculum also should be exploratory in nature. Early adolescence is a time for exploring, not mastering, a wide variety of interests and areas.

Also of primary importance is the concept of common, comprehensive academic curriculum. In order to be literate and well educated in all areas, all students must be expected to attain the shared body of knowledge, references, and symbols of our society. This common core of knowledge should incorporate the following: cultural literacy, scientific literacy, knowledge of the humanities, appreciation of society's values, reading, writing, listening, speaking, calculating, thinking, and learning. The necessity of comprehensive literacy for all students impacts learning in all areas. This background knowledge forms the foundation for proficiency in reading which is necessary for further learning.

The basic skills of communication and mathematics especially should be seen as tools for working with knowledge--for learning, developing, and expanding knowledge. The concept of "student as knowledge worker" implies that students will use their skills, abilities, interests, talents, and creativity to work with knowledge as active participants rather than as passive recipients.

Critical and creative thinking, problem identification and problem-solving, and decision-making skills and strategies should be incorporated into all subject areas and should be included or taught in exploratories, extracurricular programs and activities, clubs, and advisory programs.

As we move into the information service delivery age, computer literacy for all students becomes an imperative. The middle school program should prepare its clients in the usage of software for word processing in order to produce writings in all areas of the curriculum. They should be able to use data base and spread sheet software to manage and manipulate other types of information. Additionally, facility in using technological hardware should be developed.

Instruction in government, politics, geography, and economics should include processes, experiential involvement, and simulations in the classroom. Relevant applications of these learnings take place in other activities such as student government and service to the community and in opportunities to create awareness of current events in the local area, state, nation, and world. For the middle school child, it is important that these learnings have real-life applications. They need to know and understand how events and policies affect them and what they can do about them.

In the sciences, because of their development level, students need to be involved in "hands-on" experiences, in process skills, and in real-life applications of those skills. Conceptual understanding will be enhanced when students participate in classroom activities.

Literature and the arts should be an integral part of an interdisciplinary approach and exploration of curriculum areas. Foreign language experiences should be available for exploration by all students and should be interrelated with geography and cultures.

The world of work, employment, and earning a living should be treated in an exploratory manner. Opportunities should be broadened, not limited, and students should not be asked to select future career choices at this level. Additionally, students need to be involved in as many "hands-on" experiences as possible.

Finances and budgets should be included in mathematics and in consumerism. The importance of roles in groups and families should be included in curriculum and modeled through the team structure.

Within the area of developing a healthy lifestyle, curriculum implications include applying knowledge about health toward the goal of making good decisions. Also, students should be involved in intramural sports and recreation and should be introduced and involved in individual sports and recreational activities which can be enjoyed throughout life. The idea should be that these activities are for the participation of everyone, not for the development of "star" athletes.

The following outcomes should be included in all areas of the curriculum or in study skills and self-development in advisory programs:

- learning independently;
- setting goals, developing short attainable stair step goals and working toward them, and evaluating and resetting goals;
- developing personal belief statements while being open to other viewpoints; and
- developing flexibility and adaptability.

As middle schools are restructured for outcome-based education, further implications become apparent. Flexibility of resources including time, space, personnel, student groupings, and finances will be requisite. Policies, such as minute mandates, which serve as obstacles, must be altered or eliminated. As schools strive to serve students, the professionals within the schools must have the flexibility to design programs developmentally appropriate and suited to their students' needs. Regulations for the schools must allow for creativity and autonomy as schools seek to develop programs responsive to the unique needs of the transescent.

Middle grades education must be recognized as distinct from elementary and secondary. The people who work with early adolescents must be people who understand them and enjoy them. Tri-level certification and extensive training in early adolescent development will be necessary to allow for this.

The environment of the schools must be designed for the transescent. "Success for each and every one, each and every day" will be the guiding mission. The common comprehensive curriculum, mixed ability groupings, and team organizational structure will facilitate achieving this mission. Accepting the existence of multiple-intelligences, all strengths and talents, not just traditional I.Q. will be valued, honored, and rewarded.

Flexibility in scheduling will be necessary to provide appropriate conditions for interdisciplinary instruction, exploratory opportunities, and advisory programs. The environment must allow for students to have access to more interaction with adults. Assignments of one adult to each individual student will provide a program for nurturing each individual. Instructional strategies will need to be participatory, cooperative, and process and application oriented. Assessment must reflect and incorporate the concept of multiple-intelligences and the process and application orientation. Furthermore, assessment must no longer cause competition but should foster cooperation so that everyone can "win."

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Since the business of the schools will be different, staff and administrators will need training in areas such as cooperative learning, instructional strategies, decision making, problem solving, and interdisciplinary curriculum. There also will need to be training in early adolescent growth and development and student and staff empowerment. Changes in the schools will necessitate changes in teacher programs. Potential teachers and administrators must have appropriate preparation to be effective in the future middle school.

Finally, parents and communities will need to be informed about middle schools and their mission. Schools should provide early adolescent growth and development training for parents so that they can better understand their children. The school of the future will be a place where parents will share their expertise and wisdom and be involved in education.

Every young person has gifts and talents which will be needed in the future. It will be the job of the middle school to nurture and encourage young people so that they may fulfill their potential.

EXPECTATIONS FOR KENTUCKY HIGH SCHOOL GRADUATES

UK-SRC
MAY, 1989
SRC109

CARD: /___/ 101
ID: /___/___/___/ 102 103 104
INTERVIEWER: /___/___/ 105 106

Hello, my name is __________. I'm calling from the University of Kentucky's Survey Research Center. This month we're calling people across Kentucky to learn their views on what knowledge, values, and skills the average Kentucky high school graduate should have in the next 10 years.

According to my instructions I'm to speak to a (MAN/WOMAN) at this number who is over the age of 18. Would that be you? OR Could you please call (HIM/HER) to the phone? IF NECESSARY, REPEAT GREETING

The interview takes only about 20 minutes, and is confidential. Your responses will not be connected with your name in any way.

1. If I have your permission, I would like to ask you how long you have lived in Kentucky, or have you lived her all your life?

   INTERVIEWER RECORD ACTUAL NUMBER OF YEARS============> /___/___/ 107 108

   90 = ALL MY LIFE 98 = DON'T KNOW 99 = REFUSED

2. Overall, how would you rate education in Kentucky? Would you say it is...

   109-
   1. Excellent
   2. Good
   3. Fair
   4. Poor
   8. Don't know
   9. Refused

INTERVIEWER READ:

I am going to describe some outcomes that could result from instruction or study in several different areas of education. I would like to know whether YOU think each of these outcomes should be expected of nearly all, two-thirds, one-third, or less than one-third of high school graduates.

3. First I will ask you about outcomes associated with the area of basic reading, writing, speaking, and math skills.

   a. What about writing a business letter to a potential employer with correct form, punctuation, and grammar? Should this be expected of...

      110-
      1. Nearly all
      2. Two-thirds
      3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

b. How about being able to make a 15 minute speech in a public meeting using correct grammar and expressing ideas clearly?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
111- 3. One-third 9. Refused
4. Less than one-third

(INTERVIEWER: FROM THIS POINT ON, READ RESPONSE OPTIONS ONLY IF NECESSARY TO REMIND RESPONDENT OR BREAK UP A PATTERN OF RESPONSE SET)

c. What about being able to compute actual consumer cost of different installment purchase plans for an appliance or a car?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
112- 3. One-third 9. Refused
4. Less than one-third

d. What about understanding an owner's manual well enough to accurately follow instructions?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
113- 3. One-third 9. Refused
4. Less than one-third

4. Now I will ask you about outcomes associated with learning how to think and solve problems.

a. And how about being able to recognize a problem and to describe the information needed to solve it?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
114- 3. One-third 9. Refused
4. Less than one-third

b. What about being able to find health, employment, and consumer information and being able to use information sources?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
115- 3. One-third 9. Refused
4. Less than one-third

c. What about being able to imagine alternate ways to solve a problem?

1. Nearly all
2. Two-thirds
116- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

d. How about being able to choose the best solution to a problem based on available information?
(INTERVIEWER: IF EXAMPLES ARE NEEDED FOR CLARITY, SAY...
FOR EXAMPLE, WHICH CAR TO BUY OR HOW TO FIND A JOB)

1. Nearly all
2. Two-thirds
117- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

5. Now I will ask you about outcomes associated with being able to understand and use computers and technology.

a. What about being able to type or operate a computer keyboard? Should this be expected of...

1. Nearly all
2. Two-thirds
118- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to use computer programs to write letters, solve problems, and make charts and graphs?

1. Nearly all
2. Two-thirds
119- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to write computer programs that will store retrieve, and manipulate information?

1. Nearly all
2. Two-thirds
120- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

6. Now I will ask you about outcomes associated with learning about government, politics, and economics.

a. What about being able to describe the process of running for a political office and getting elected? Should this be expected of...

1. Nearly all
2. Two-thirds
121- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to describe the process of protesting the rezoning of an area?

1. Nearly all
2. Two-thirds
122- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to describe the criminal and civil court system and the consequences of being convicted?

1. Nearly all
2. Two-thirds
123- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

d. What about being able to describe how banks and other lending agencies establish credit, make loans, and charge interest?

1. Nearly all
2. Two-thirds
124- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

e. What about being able to describe the legal responsibilities of owning property such as a car, house, land, or a business?

1. Nearly all
2. Two-thirds
125- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

7. Now I will ask you about outcomes associated with learning about science, our environment, and the work of scientists.

   a. What about being able to apply scientific ideas and principles to solve every day problems such as maintaining appliances, a car, or an apartment? Should this be expected of...

      1. Nearly all
      2. Two-thirds
      126- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

   b. What about being able understand how the human body functions so one can make sound health and medical decisions.?

      1. Nearly all
      2. Two-thirds
      127- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

   c. What about being able to deliver a convincing argument at a town meeting on the hazards of improper waste disposal?

      1. Nearly all
      2. Two-thirds
      128- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

   d. What about being able to read and understand articles in scientific magazines like SCIENTIFIC AMERICAN? (IF RESPONDENT IS NOT FAMILIAR WITH SUCH MAGAZINES, CODE AS 8.)

      1. Nearly all
      2. Two-thirds
      129- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

8. Now I will ask you about outcomes associated with learning about history, literature, the arts, languages, and geography.

   a. For each student, what about being able to describe the history of one's own culture in relation to the history of America? Should this be expected of...

      1. Nearly all
      2. Two-thirds
      130- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

   b. What about being able to understand the likenesses, differences, and contributions of major ethnic groups in the United States, including Anglo Saxon, black, hispanic, native American, and Asian?

      1. Nearly all
      2. Two-thirds
      131- 3. One-third
      4. Less than one-third
      5. Not important for anyone (VOLUNTEERED)
      8. Don't know
      9. Refused

c. What about being able to read and interpret literature in relation to the culture of people and the time it was written?

1. Nearly all
2. Two-thirds
132- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

d. What about being able to communicate with people from another culture using a foreign language?

1. Nearly all
2. Two-thirds
133- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

e. What about being able to actively participate in one of the fine arts such as music, art, drama, or dance for enjoyment? (INTERVIEWER: GIVE EXAMPLES AS NECESSARY. READ "SUCH AS CHURCH CHOIR OR COMMUNITY DRAMA)

1. Nearly all
2. Two-thirds
134- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

9. Now I will ask you about outcomes with associated learning about understanding human behavior, developing self-esteem, relating to other people, and becoming a responsible individual.

a. What about being able to describe what is acceptable and unacceptable behavior in different situations?
Should this be expected of...

1. Nearly all
2. Two-thirds
135- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to cooperate as a contributing member of a group such as a committee, choir, or athletic team?

1. Nearly all
2. Two-thirds
136- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to demonstrate the ability to resolve conflicts in a nonviolent manner?

1. Nearly all
2. Two-thirds
137- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

d. What about knowing what you're good at and using your strengths to develop yourself and help others?

1. Nearly all
2. Two-thirds
138- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

10. Now I will ask you about outcomes associated with learning about work, employment, and earning a living.

a. What about being able to complete job applications and give a good job interview?

1. Nearly all
2. Two-thirds
139- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to describe a career or education plan for a period of up to five years after high school?

1. Nearly all
2. Two-thirds
140- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to demonstrate the education and technical skills to get a job beyond the minimum wage level?

1. Nearly all
2. Two-thirds
141- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

11. Now I will ask you about outcomes associated with learning about personal finances, household management, parenting, and family responsibility?

a. What about being able to open a checking account, establish credit, and evaluate insurance options?

1. Nearly all
2. Two-thirds
142- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to understand and describe the process and obligations for finding, renting, or buying a place to live?
for finding, renting, or buying a place to live?

1. Nearly all
2. Two-thirds
143- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to develop a plan for managing a personal and family budget?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
144- 3. One-third 9. Refused
4. Less than one-third

d. What about being able to describe what it means to be a good parent and the financial, moral, and legal obligations of parenthood?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
145- 3. One-third 9. Refused
4. Less than one-third

12. Now I will ask you about outcomes associated with learning about health and fitness including drug and alcohol education.

a. What about being able to describe health practices that contribute to fitness and maintain wellness?
Should this be expected of...

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
146- 3. One-third 9. Refused
4. Less than one-third

b. What about being able to describe the physical, psychological and legal consequences of substance use and abuse?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
147- 3. One-third 9. Refused
4. Less than one-third

c. What about being able to describe the major diseases and ailments in our country that are a threat to our health and well being?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
148- 3. One-third 9. Refused
4. Less than one-third

d. What about being able to actively participate in a personal plan for physical fitness and the wise use of leisure time?

1. Nearly all 5. Not important for anyone (VOLUNTEERED)
2. Two-thirds 8. Don't know
149- 3. One-third 9. Refused
4. Less than one-third

13. Here are a few outcomes for high school graduates that go beyond the categories we have already talked about. For example...

a. What about being able to demonstrate the ability to learn new things on one's own?
Should this be expected of...

1. Nearly all
2. Two-thirds
150- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

b. What about being able to set goals, develop a plan, and work toward those goals?

1. Nearly all
2. Two-thirds
151- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

c. What about being able to demonstrate self discipline and good time management?

1. Nearly all
2. Two-thirds
152- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

d. What about knowing what one believes and being able to defend one's beliefs with logical arguments?

1. Nearly all
2. Two-thirds
153- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

e. What about being able to demonstrate adaptability and flexibility in new situations?

1. Nearly all
2. Two-thirds
154- 3. One-third
4. Less than one-third
5. Not important for anyone (VOLUNTEERED)
8. Don't know
9. Refused

CARD: /___/ 201 ID: /___/___/___/ 202 203 204

14. For the last few minutes, we have been talking about outcomes associated with 10 important areas of instruction. Now I would like to ask you about those areas themselves. There are 1000 hours of instruction in one year for a Kentucky high school student. If each of the 10 areas of instruction were equally important, 100 hours would be available for each area. However, they are not all equal in importance. Some should receive more hours and others less.

One of the areas is LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS. Let's say that it is roughly of average importance and therefore would be allotted 100 hours of instruction for the year. For each of the other areas, tell me the number of hours that you think should be allotted.

If you think that it is MORE important than LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS, you should allow more than 100 hours for it.

If an area is LESS important than LEARNING ABOUT GOVERNMENT, ECONOMICS, AND POLITICS, you should allow fewer than 100 hours for it.

First, what about...

INTERVIEWER BEGIN AT DESIGNATED ITEM AND GO IN THE DIRECTION OF THE ARROW.

a.	Learning about the sciences, our environment, and the work of scientists?	/___/___/___/ 205 206 207
b.	Understanding human behavior, developing self-esteem, relating to other people, and becoming a responsible individual	/___/___/___/ 208 209 210
c.	Understanding and using computers and technology	/___/___/___/ 211 212 213
d.	Work employment and earning a living	/___/___/___/ 214 215 216
e.	Basic reading, writing, speaking, and math skills	/___/___/___/ 217 218 219
f.	Personal finances, household management, parenting, and family responsibilities	/___/___/___/ 220 221 222
g.	Learning how to think and solve problems	/___/___/___/ 223 224 225
h.	Health and fitness including drug and alcohol education	/___/___/___/ 226 227 228
i.	History, literature, the arts, languages, and geography	/___/___/___/ 229 230 231
	(DO NOT ASK ITEM J--IT IS THE ANCHOR)	
j.	LEARNING ABOUT GOVERNMENT, POLITICS, AND ECONOMICS.	/_1_/_0_/_0_/ 232 233 234

INTERVIEWER READ: Now I want to ask about the values that a Kentucky high school graduate in the next 10 years should have. For each value I read, please tell me how important it is. Is it extremely important, above average, below average, or not important? First, what about...

15. Democracy?

235-
4. Not important
8. Don't know
9. Refused
→ SKIP TO 16

1. Extremely important
2. Above average in importance
3. Below average in importance
↓

15a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

236-
3. school
7. NA
8. DK
9. REF
→ SKIP TO 16

1. church
2. home
4. other agency ________
SPECIFY
↓

15b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

237-
1. some
2. little
3. no
7. NA
8. DK
9. REF

16. Concern for the environment?

4. Not important
8. Don't know
238- 9. Refused
|
V
SKIP TO 17

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

16a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
7. NA
239- 8. DK
9. REF
|
V
SKIP TO 17

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

16b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
240- 2. little
3. no

7. NA
8. DK
9. REF

17. The free enterprise system?

4. Not important
8. Don't know
241- 9. Refused
|
V
SKIP TO 18

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

17a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
242- 7. NA
8. DK
9. REF
|
V
SKIP TO 18

1. church
2. home
4. other agency
____
|
|
|
V

17b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
243- 2. little
3. no

7. NA
8. DK
9. REF

18. Honesty and integrity?

4. Not important
8. Don't know
244- 9. Refused
|
V
SKIP TO 19

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

18a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
245- 7. NA
8. DK
9. REF
|
V
SKIP TO 19

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

18b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
246 2. little
3. no

7. NA
8. DK
9. REF

19. Respect and appreciation for ethnic differences?

4. Not important
8. Don't know
247- 9. Refused
|
V
SKIP TO 20

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

19a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
248- 7. NA
8. DK
9. REF
|
|
V
SKIP TO 20

1. church
2. home
4. other agency
____
SPECIFY
|
|
|
V

19b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
249- 2. little
3. no

7. NA
8. DK
9. REF

20. Importance of service to society?

4. Not important
8. Don't know
250- 9. Refused
|
V
SKIP TO 21

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

20a. Who has the major responsibility for instilling this value? Would you say the church, home, school or other agency?

3. school
251- 7. NA
8. DK
9. REF
|
V
SKIP TO 21

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

20b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
252- 2. little
3. no

7. NA
8. DK
9. REF

21. Desire to work hard and do a good job

4. Not important
8. Don't know
253- 9. Refused
|
V
SKIP TO 22

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

21a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
254- 7. NA
8. DK
9. REF
|
V
SKIP TO 22

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

21b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
255- 2. little
3. no

7. NA
8. DK
9. REF

22. Self esteem?

4. Not important
8. Don't know
256- 9. Refused
|
V
SKIP TO 23

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

22a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

257
3. school
7. NA
8. DK
9. REF
|
V
SKIP TO 23

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

22b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

258-
1. some
2. little
3. no

7. NA
8. DK
9. REF

23. The importance of family life

4. Not important
8. Don't know
259- 9. Refused
|
V
SKIP TO 24

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V

23a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

260-
3. school
7. NA
8. DK
9. REF
|
V
SKIP TO 24

1. church
2. home
4. other agency
____
SPECIFY
|
|
V

23b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

261-
1. some
2. little
3. no

7. NA
8. DK
9. REF

CARD: /_3_/ ID: /___/___/___/
301 302 303 304

24. Education and life long learning?

4. Not important
8. Don't know
305- 9. Refused
|
V
SKIP TO 25

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V
24a. Who has the major responsibility for instilling this value? Would you say the church, home, school or other agency?

3. school
306- 7. NA
8. DK
9. REF
|
V
SKIP TO 25

1. church
2. home
4. other agency
____
SPECIFY
|
|
V
24b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
307- 2. little
3. no

7. NA
8. DK
9. REF

25. Respect for authority

4. Not important
8. Don't know
308- 9. Refused
|
V
SKIP TO 26

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V
25a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
309- 7. NA
8. DK
9. REF
|
V
SKIP TO 26

1. church
2. home
4. other agency
____
SPECIFY
|
|
V
25b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
310- 2. little
3. no

7. NA
8. DK
9. REF

26. Responsibility

4. Not important
8. Don't know
311- 9. Refused
|
V
SKIP TO 27

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V
26a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
312 7. NA
8. DK
9. REF
|
V
SKIP TO 27

1. church
2. home
4. other agency
____
SPECIFY
|
|
V
26b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
313- 2. little
3. no

7. NA
8. DK
9. REF

27. Respect for individual rights and differences?

4. Not important
8. Don't know
314- 9. Refused
|
V
SKIP TO 28

1. Extremely important
2. Above average in importance
3. Below average in importance
|
V
27a. Who has the major responsibility for instilling this value? Would you say the church, home, school, or other agency?

3. school
315- 7. NA
8. DK
9. REF
|
V
SKIP TO 28

1. church
2. home
4. other agency
____
SPECIFY
|
|
V
27b. Would you say the school shares some, little, or no responsibility with the ______ for instilling this value?

1. some
316- 2. little
3. no

7. NA
8. DK
9. REF

28. About how often do you encounter or deal with new high school graduates? Would you say you encounter them ...

1. Daily
2. A few times a week
3. A couple of times a month
4. A few times a year
317- 7. Not asked
8. Don't know
9. Refused

29. How have high school graduates in Kentucky changed in the last five years? Would you say they have gotten better, gotten worse, or are about the same?

1. Gotten worse
2. About the same
3. Gotten better
318- 7. NA
8. DK
9. REF

Now I would like to ask some general background questions.

30. Could you tell me what county you are currently living in?

INTERVIEWER RECORD ACTUAL COUNTY NAME

____________________________________ /___/___/___/
319 320 321

31. In what year were you born?

INTERVIEWER RECORD LAST TWO DIGITS /___/___/
322 323

87=Not asked
88=Don't know
89=Refused

32. Are you married, separated, divorced, widowed, or have you never been married?

1. Married---> 32a. Is your spouse employed outside the home?

1. Yes
2. No
325- 7. Not asked
8. Don't know
9. Refused

2. Separated
3. Divorced
4. Widowed
5. Never married
324- 7. Not asked
8. Don't know
9. Refused

33. How many elementary or high school age children live in your household?

INTERVIEW RECORD ACTUAL NUMBER /___/___/
326 327

97=Not asked
98=Don't know
99=Refused

34. What is your race?

1. Black
2. White
328- 3. Asian
4. Other
8. Don't know
9. Refused

35. What was the last grade in school you completed?

INTERVIEWER RECORD ACTUAL NUMBER OF YEARS /___/___/ 97=Not asked
329 330 98=Don't know
99=Refused

36. Would you call the community in which you live a rural area, a small town, a suburb, or a city of 50,000 or more?

IF RURAL AREA ASK: Do you live on a farm?

1. Rural--farm
2. Rural--nonfarm
3. Small town
4. Suburb
331.- 5. City
7. Not asked
8. Don't know
9. Refused

37. What is your current religious preference, if any?
IF "PROTESTANT" PROBE: What church or denomination is that?
IF "CATHOLIC" PROBE: Is that Roman Catholic?
IF "LUTHERAN" PROBE: Is that Missouri Synod or other Lutheran?
IF "BAPTIST" PROBE: Is that Southern Baptist or some other group?

______________________________ /___/___/
RECORD EXACT DENOMINATION 332 333

===> IF NONE (98), DON'T KNOW (98), OR REFUSED (99), SKIP TO 39

38. How strongly do you identify with ____________________ (NAME OF CHURCH OR DENOMINATION)? Would you say that you identify very strongly, somewhat strongly, somewhat weakly, or very weakly with ____________?
(AUTHORIZED TRANSLATION: BY "IDENTIFY WITH" I MEAN CARE ABOUT, THINK ABOUT, OR VIEW YOUR SELF AS AN ACTIVE PART OF THAT GROUP)

1. Very strongly
2. Somewhat strongly
334- 3. Somewhat weakly
4. Very weakly
7. Not asked
8. Don't know
9. Refused

39. Last year was your total family income before taxes over or under $20,000?

IF UNDER $20,000: Was it over or under $10,000?

IF UNDER $10,000: Was it over or under $5,000?

335- 1. Under $5,000
2. $5-$10,000

IF OVER $10,000: Was it over or under $15,000?

3. $10-$15,000
4. $15-$20,000

IF OVER $20,000: Was it over or under $30,000?

IF UNDER $30,000: Was it over or under $25,000?

5. $20-$25,000
6. $25-$30,000

IF OVER $30,000: Was it over or under $40,000?

7. $30-$40,000

IF OVER $40,000: Was it over or under $50,000?

8. $40-$50,000
9. Over $50,000
0. DK/ REF

40. Are you or have you ever been a school teacher? (PROBE FOR BEST ANSWER)

336- 1. Yes, presently teaching-----> 40a. What grade did you teach? ________ --->END
97=NA, 98=DK, 99=REF 337-8

2. Yes, but retired now ------> 40b. How many years did you teach? ________ --->END
97=NA, 98=DK, 99=REF 339-40

3. Yes, but changed careers--> 40c. How many years did you teach? ________ --->END
97=NA, 98=DK, 99=REF 341-42

4. No, never taught --------> 40d. What is your present occupation?

________________________________ = /___/___/___/
343 344 345

That's all the questions I have for today. Thank you very much for your time and help. Goodbye.

INTERVIEWER COMPLETE:

GENDER OF RESPONDENT:

1. Female
2. Male

-346

TIME OF DAY OF INTERVIEW:

1. Morning
2. Afternoon
3. Evening

-347

DAY OF MONTH OF INTERVIEW: /___/___/ 348 349

TOTAL TIME OF INTERVIEW IN MINUTES: /___/___/ 350 351

IN GENERAL, THE RESPONDENT'S UNDERSTANDING OF THE QUESTIONS WAS:

1. Excellent
2. Good
3. Fair
4. Poor

-352

OVERALL, HOW GREAT WAS THE RESPONDENT'S INTEREST IN THE SURVEY?

1. Very high
2. Above average
3. Average
4. Below average
5. Very low

-353

HOW MANY TIMES WAS THIS NUMBER CALLED (BE SURE TO INCLUDE INITIAL CALL AND ANY CALLBACK ATTEMPTS)?

/___/___/ 354 355 99=missing

DISPOSITION SHEET NUMBER: /___/___/___/ 356 357 358

WAS THIS INTERVIEW COMPLETED:

1. On the first contact
2. On a callback appointment
3. After an initial refusal

-359

SUPERVISOR COMPLETE: SUPERVISOR ID NUMBER /___/___/ 360 361

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THE KENTUCKY HIGH SCHOOL GRADUATE OF THE FUTURE: RESOURCEFULNESS, ADAPTABILITY, AND CIVIC RESPONSIBILITY

Prepared by the High School Task Group

of the

Council on School Performance Standards

July 6, 1989

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The Kentucky High School Graduate of the Future: Resourcefulness, Adaptability, and Civic Responsibility

Introduction

The United States Secretary of Education Lauro F. Cavazos implored the nation to "clearly define what every student must know before leaving the elementary, junior, or the high school level" in his presentation of the 1989 "wall chart," a compilation of education indicators by state. Governor Wallace G. Wilkinson, in A Plan to Restructure Schools in Kentucky, also stated that "schools need clearly defined outcomes to guide them." The charge to the High School Task Group of the Council on School Performance Standards is to describe the Kentucky high school graduate of the future. The High School Task Group is composed of six members, including two high school teachers, a secondary school assistant principal, an instructional supervisor, a representative from the Kentucky Department of Education, and a professor in a teacher education program. Our purpose in preparing this report is to describe the high school graduate of the future and to develop the characteristics of this graduate which can be used by school personnel in designing and developing the instructional environment and the curriculum to achieve this description.

We based our image of the graduate of the future on the information received from the statewide survey of Kentuckians conducted as part of the charge from the Council on School Performance Standards. The survey information represents the opinions of a cross-section of Kentuckians about what they believe graduates should be able to do as a result of completing a high school education in Kentucky. We have taken into account what the public says is important about the qualities and characteristics of high school graduates from the information supplied by the statewide survey, we have considered the useful contributions made by the Kentucky Essential Skills Program in working toward some of these qualities, and we have tempered these with the professional views represented on the High School Task Group.

The High School Graduate of the Future

The image of the typical high school graduate of the future emerging from the statewide survey of Kentuckians has three facets. The survey information indicates to the Task Group that Kentuckians desire high school graduates who use their basic skills of literacy and numeracy including reading, writing, speaking, and mathematics abilities and their understanding of subject matter to be 1) resourceful problem solvers; 2) adaptable members of an ever-changing world; and 3) responsible, self-monitoring, forward-looking family and community participants. This is no small task for school personnel or for our present system of high school education.

Historically, the central mission of high schools has been to help adolescents learn to use their minds well. The public's attitude toward schooling still indicates agreement with this mission of high schools as places where students are routinely provided with opportunities to use their minds. It is our opinion that the responses to the survey suggest that "using one's mind well" goes far beyond the mastery of the traditional subject matter areas and instead views subject matter as the vehicle by which resourcefulness, adaptability, and civic responsibility are developed. One can infer then that the high school curriculum of the future should be designed in such a way to communicate to students that what we do not know about a subject is as important as what the text tells us we do know. A curriculum designed around this multi-faceted image of the students requires them to inquire into a subject rather than accept what is given.

Characteristics of the High School Student

There is some reason to believe that students of high school age should be ready to inquire into curriculum rather than passively accept it. Theories of how adolescents learn suggest that, as students approach the high school level, they should have an increased capacity to comprehend the abstract and they should be able to think about ideas they create mentally, such as conjecture or prediction. They should possess the mental ability to handle uncertainties as well as a diversity of opinions. They should have the capacity to identify a problem and to follow it through to a solution. Because of the increased mental capacities of the high school student, the curriculum designed for high schools tends to include more content that requires abstract thinking. It tends to focus on "using one's mind well" in an intellectual environment which has implications for how the curriculum is structured in the high school.

The Mission of the High School

An academic curriculum designed around problem solving, adaptability, and responsibility changes the orientation of the classroom and the environment of the high school. The relationships between and among administrators, teachers, and students will necessarily change. In the vision of schools derived from the survey, the role of teachers of the traditional subject matter areas such as English, math, science, and social studies will not be as purveyors of information. Teachers will not be expected to have every detail and fact in place before enjoining a class. Even the best minds in any field do not have every fact about it "on the tips of their tongues." Rather, they are resourceful enough to locate the information they need to complete a task. As promoters of inquiring minds, high school teachers of the future will be organizers and managers of subject matter and related experiences that place students squarely in front of their current knowledge and then ask them to grapple with new information. This is what the best minds in a field do. In a sense, high school teachers inquire along with the students. Hence, the role of the high school curriculum will be to provide experience with subject matter rather than exposure to subject matter.

In order for exiting high school students to be resourceful, adaptable, and responsible citizens, they must have direct experience with problem solving in group settings where the use of knowledge is required. Analyzing problems in history is different from telling students about various problems encountered in history. Preparing an actual business letter is different from learning about the characteristics of a business letter. Preparing a paper for a class by accessing information from a computer database and writing the paper using a state-of-the-art word processing program are different from writing a program that calculates interest in a fictitious bank account. The citizenry of Kentucky seems to desire a high school curriculum that prepares graduates who can use knowledge of subject matter to solve the problems encountered in daily adult life and to live responsible adult lives. The mission of the high school curriculum of the future will be to engage students in the application of knowledge rather than the possession of knowledge.

THE GRADUATE OF THE NEW HIGH SCHOOL

Resourceful Problem Solving

The age of technology is rapidly propelling us into the future. Since only a few years' technological and social development can produce as much change as previously occurred in a half century, high school graduates of the future will need to be resourceful problem solvers and decision makers. Most accounts of the future suggest that the citizens of the Information Age will be compelled to use their basic knowledge of the subject matter areas for problem solving and decision making when sorting out the information they encounter. As we reviewed the survey results, we found a collection of outcomes that, taken together, draw the image of a resourceful person--one who does not shrink from the tasks before him/her.

Resourceful graduates will possess the disposition of inquiring problem solvers. Resourceful problem solvers are those who are not paralyzed into inaction even in the absence of information or by the inability to locate resources quickly. They can handle the uncertainty associated with ambiguity or lack of closure. They use their knowledge to identify as well as to define a problem and then plan and implement a strategy for solving it. They set a goal to achieve and locate the information and resources necessary to reach that goal.

As resourceful problem solvers, the graduates of the future will use what they know about a subject, will locate and use information and resources creatively to address problems, and will enjoy operating independently and interdependently. They will make wise use of their time, they will work diligently toward the completion of the goal, and perhaps most importantly they will be able to "handle" the outcome.

Adaptability

The second characteristic which the high school graduate of the future should possess is adaptability. Because of advances in communication technology, we are rapidly becoming a global community. Students can tune in and view actual live satellite telecasts of unrest in distant countries or across the nation. The high school graduates of the future should possess the necessary background that will allow them to recognize ethnic and racial differences and to appreciate the contributions to the American culture made by other groups. In their daily lives they will be expected to understand ideological differences and how their opinions relate to the opinions of their neighbors and workmates. High school graduates will need to be sensitive to the demands of global interdependence which have created a delicate balance between geography, economics, and politics or distinctions between democracy and other forms of government. For example, educated citizens of the future will be required to discern how the actions of our nation's leaders affect their personal well-being or understand why the prices of imported goods fluctuate and how such fluctuations affect employment patterns in the community.

We believe that the disposition to be adaptable comes from an understanding of self in relation to others through the study of human behavior in historical, environmental, and social contexts. The history of humankind is the study of adapting in order to survive; to change as the environment demands including genetic, social, economic, interpersonal, and political environments. As people have faced new challenges, we have found ways to adapt to the environmental, cultural, and social demands before us including a willingness to explore how technology can assist the inquiring mind. Thus, adaptable members of society are self-monitoring and self-reliant without being egocentric.

The high school curriculum which seeks to prepare adaptable citizens provides students with experiences which challenge their conventions of thought. The students are routinely required to defend their perspective on the grounds of logic and can be persuaded of their ideologies in light of stronger evidence. This attribute is essentially a tolerance for diversity and ambiguity wherein the student at the least understands differences of opinions and seeks paths toward compromise and coexistence, thereby demonstrating a personal flexibility without slipping into a vacuum devoid of standards. This is a fine line in terms of outcomes for high school graduates. At the least, high school students should encounter more opportunities where they challenge convention on logical grounds.

Civic Responsibility

It is very clear from the information gained through the survey that Kentuckians want the schools to instill the value of civic responsibility. All citizens are family members and social participants. As such, they are required to demonstrate civic understanding, including how to participate in our free enterprise system and in our democracy; how to be a smart consumer; and how to manage financial and household responsibilities. Civic responsibility includes a respect for the community by demonstrating a positive work ethic as well as by being honest and acting with integrity in family and community interactions. Being a responsible citizen includes self-discipline and self-respect which will manifest itself in a positive attitude toward personal health, including substance abuse.

The self-monitoring, forward-looking family member and community participant inferred from the survey also needs the skills of the resourceful problem-solver previously described. Responsible citizens focus on the goals they wish to accomplish, manage their time well, and are flexible in their ability to work with others toward the efficient achievement of their goals. Thus, it is difficult to envision a responsible citizen who is not a resourceful problem-solver.

Summary

A student who completes a high school education in Kentucky is one whose future is not limited because of educational preparation. The "new" basic skills necessary for living in the future include resourcefulness, adaptability, and civic responsibility built on a solid foundation of literacy, numeracy, subject matter knowledge, and positive self-esteem. Additionally, graduates should possess communication skills sufficient to enable them to pursue their chosen careers with confidence. Furthermore, Kentucky high school graduates of the future should have developed life skills and a personal value system that serve as the foundation for becoming contributing members of the community. In sum, a high school diploma should signify that graduates can apply the knowledge and skills acquired in school to use their minds effectively as responsible citizens.

Role of Subject Matter

It would be short-sighted not to include a discussion of the role that subject matter plays in the high school curriculum of the future. Simply, we cannot walk away from the traditional subject fields as we have known them. However, the outcomes of these fields need to be examined for their consistency with the outcomes described above. Subject matter should be used to develop the outcomes of problem solving, adaptability, and civic responsibility so that high school graduates will have had repeated opportunities to practice these skills.

Thus, there are seven questions about a subject matter field which must be considered when teachers plan instruction. These seven questions should serve as conceptual organizers which facilitate the preparation of objectives and instructional activities for teaching. When designing instruction, a teacher should assess the degree to which each of these questions is addressed.

1. What are the basic concepts, principles, and rules that students must understand if they are to use the subject matter field for solving problems?
2. How did this field arrive at where it is today, or what is the history of this field?
3. How is knowledge gained in this field, or what are the methods of inquiry practiced in this field?
4. What social contributions have come from this field?
5. What is the personal relevance of this subject to students?
6. How is this subject matter field applied in the world?
7. How do the key concepts, principles, and rules of this subject matter field relate to the key concepts, principles, and rules in other fields?

Examples of Outcomes

In this section of the report, we provide examples of outcomes which we feel characterize the high school graduates who possess problem-solving skills, adaptability, and civic responsibility. Before we begin the list of sample outcomes, we want to emphasize that we are operating on two premises:

1) Learning to be a resourceful problem solver who is an adaptable and responsible citizen is not taught in the absence of subject matter. In this report we are not endorsing the use of any of the content-free, problem-solving, or critical-thinking "packages" currently available. Rather we believe that there are serious implications for the role subject matter plays in the development of a curriculum which fosters problem solving, adaptability, and responsibility.

2) While we present the outcomes in terms of subject matter areas, we think that the time may be right to rethink the traditional subject matter orientation of contemporary high schools. We can conceive of some high schools finding new configurations of subject matter that require what may traditionally have been the province of science or social studies and using them in unique ways toward the image of the graduate advanced in this report. A "course" using a problem-solving approach just might be interdisciplinary.

With the ultimate purpose of providing graduates with equal access to a successful future, the focus of the high school will be on the image of the student described throughout this report. Curriculum within and across subject matter areas will need to be examined for consistency toward this end. Educators should examine the degree to which the curriculum is designed around using subject matter to teach problem solving, adaptability, and civic responsibility. In the following lists, we provide some examples of the types of understandings and attributes we think resourceful, adaptable, responsible high school graduates should possess.

A. Science

There was evidence from the survey that science should be used to help students understand the natural and physical environment in which they live. Toward that end we present a sample of outcomes which might reflect the curriculum of the future. The high school graduate should be able to:

- understand biological science facts, concepts, and principles including cellular life, cell structure, cell function, biochemistry, photosynthesis, metabolism, reproduction, life cycles, animal and plant diversity, and the structure and function of organisms;
- understand physical science facts, concepts, and principles including motion, speed, velocity, acceleration, conserved quantities, thermodynamics, momentum, charge, waves, optics, particulate matter, properties of matter, the periodic table of elements, changes in matter;
- understand earth and space science facts, concepts, and principles including the history of the Earth; interaction of the hydrosphere, lithosphere, and atmosphere; the Earth's place in the universe; plate tectonics; the water cycle; the rock cycle; the earth's biography;
- use the processes essential to scientific work including observation, classification, interpretation, hypothesizing, experimentation, summarizing;
- explain the values underlying scientific work such as questioning, verification, and logic;
- describe the attributes of the nature of scientific knowledge including its tentative, public, empirical, replicable, and cumulative nature;
- use one's knowledge of the natural and physical sciences for studying contemporary life;
- describe the interdependence of living and nonliving things; and
- describe the ecological conditions of one's locale.

B. Human Behavior

The high school graduate should be able to:

- describe the role of the responsible citizen in a free enterprise economy;
- explain the relationship between self-image and relationships with others;
- describe the importance of setting long- and short-range goals to achieve career plans;
- explain the role of the responsible citizen in a democracy;
- describe the ecological and social effects of both appropriate and negligent environmental practices;
- contribute to the development of a supportive climate in groups;
- resolve conflict in a nonviolent manner;
- assume positions of leadership or "followership" in group exercises; and
- handle routine social situations by recognizing the appropriate and inappropriate uses of the common rules governing how individuals behave toward one another.

C. Computers And Technology

Although the respondents in the statewide survey indicated a more limited use of computers in our schools, viewing computers as learning tools much like calculators or textbooks, the members of the High School Task Group outlined the following outcomes for computers and technology to provide curriculum developers with some guidelines for building schools on the foundation of resourcefulness, adaptability, and responsibility. These examples of outcomes which follow should be used with this image of the student in mind.

The high school graduate should be able to:

- operate a computer using prepared reference programs;
- operate a computer using prepared instructional programs;
- operate a computer to enter and retrieve information gathered from a variety of sources;
- access information through on-line search and database services;
- access information through telephone and television networks;
- use simple statistics packages to manage information;
- operate a computer to prepare research papers using state-of-the-art word processing programs;
- describe how advancing technology influences social relationships;
- describe how advancing technology influences the world of work, employment opportunities, and collegial relationships in the work place; and
- read and interpret tables, graphs, and charts displayed on a computer screen.

D. Work, Employment, And Earning A Living

The high school graduate should be able to:

- analyze one's skills in relation to employment opportunities;
- describe the requirements for locating and gaining employment including analyzing job opportunities, completing job applications, and interviewing;
- describe the characteristics of various types of jobs such as blue collar, white collar, and pink collar from unskilled to professional;
- analyze trends in employment patterns in the local area, the state, the region, the nation, and the world;
- interpret the effects of such employment patterns on one's career aspirations; and
- demonstrate entry-level employability skills.

E. Basic Reading, Writing, Speaking, and Mathematics

The information on the survey indicated that students should possess the ability to use numbers and symbols to solve mathematics problems. Toward those ends, we outline a sample of outcomes for literacy and numeracy which foster the resourceful, adaptable, and responsible citizen inferred from the survey.

The high school graduate of the future should be able to:

- read for comprehension and summarize meaning in one's own words;
- identify a writer's point of view and to interpret a writer's purpose;
- use the features of print and nonprint media to complete assignments efficiently;
- recognize that writing is a problem-solving process by gathering information, formulating ideas, drafting, and revising;
- write using the conventions of Standard English;
- write coherently for different purposes and readers;
- express oneself orally in an understandable manner;
- prepare and give presentations for different purposes and audiences;
- follow spoken instructions and directions;
- state an opinion persuasively;
- evaluate the presentations of others;
- apply mathematical problem-solving strategies in real world situations;
- formulate and solve a problem in mathematical terms;
- explain the attributes of various mathematical problems;
- demonstrate an understanding of a problem by defining, describing, discussing, recording, and writing it using both language and symbols;
- perform basic arithmetic functions with a high degree of accuracy;
- use fractions, decimals, ratios, proportions and proportional reasoning, and percentages to solve problems encountered in a typical day;

- make and use measurements in both the English and metric systems in problem-solving situations relating to the real world;
- estimate and round off numbers;
- estimate and judge the reasonableness of a result;
- demonstrate rudimentary knowledge of probability and statistics;
- identify standard two- and three-dimensional geometric figures;
- use problem-solving strategies such as modeling, drawing a picture, making a table, and finding a pattern;
- construct and interpret graphs, tables, and charts; and
- interpret basic algebraic symbolism.

E. Personal Finance, Household And Civic Responsibilities

Resourceful, adaptable, and responsible civic participants will require a foundation in the life skills necessary for successful living. Traditionally these areas have been outside the mainstream of the high school curriculum. The results from the survey indicate that Kentuckians desire high school graduates who possess understanding concerning the responsibilities of effective civic participants. The high school graduate should be able to:

- describe how banks and lending institutions function;
- make wise decisions concerning personal values such as substance abuse or sexual activity;
- describe the uses, advantages, and disadvantages of preparing a personal or household budget;
- recognize wise credit practices;
- describe the types of housing available, how to locate housing, and how to finance housing;
- explain the influences of hereditary on child development;
- describe the economic, social, and personal consequences of not being prepared for parenthood;
- describe social conditions and their effects on contemporary society such as homelessness, fanaticism, and the various structures of the contemporary family;
- describe the attributes of responsible spouses, parents, and children; and
- describe the influences of peer pressure on the behavior of adolescents and adults.

G. Thinking and Problem Solving

The members of the High School Task Group repeatedly used the words resourceful problem solver, and perhaps no other area among these 11 is so central to the image of students described throughout this document. As we noted earlier, the resourceful, adaptable, responsible citizen is prepared through the use of subject matter. At the end of this document we describe some implications for the future directions schools might take. In this section of the report we outline some features which we feel characterize the school in which resourceful problem solvers are educated.

The school which promotes resourcefulness, adaptability, and civic responsibility:

- values the dignity of each student and demonstrates it through a trust relationship;
- has an administration and faculty that models a problem-solving, adaptable, and responsible attitude;
- experiments with alternate methods for achieving the goals outlined in this document;
- places students in direct contact with instructional experiences which require their resourcefulness, adaptability, and responsibility;
- views the interrelationships among the various subject matter areas as important for students to experience;
- seeks to expand the nature of outcomes toward which it strives;
- organizes the curriculum around the concepts of resourceful problem-solving, adaptability, and civic responsibility; and
- uses the community as a resource.

We emphasize that these attributes are just a few of those describing the "new" high school. We recognize the powerful focus provided to the schools by the Kentucky Essential Skills Program changed the nature of teaching. We are convinced that the outcomes described in this report, in conjunction with the Essential Skills Program, could provide a force that revitalizes teachers, teaching, students, and schools to focus on the use of essential skills to study the world around us.

H. Health And Fitness

There was strong support for a health and fitness curriculum that influences how students view their own lifestyles. The health outcomes described below are examples of those which a school district might want to consider as it conceptualizes "the healthy, self-monitoring, responsible citizen."

The "health literate" student of the future should be able to:

- demonstrate a positive self-esteem;
- describe the transmission and consequences of socially transmitted diseases;
- explain the relationships between the use of tobacco, alcohol, and drugs on lifestyle, life expectancy, and reproduction;
- demonstrate an understanding of human biology including how the human body functions;
- describe and demonstrate acceptable behavior in various social settings;
- describe lifestyle preferences which promote fitness and wellness;
- outline a personal fitness plan that has implications for lifelong fitness; and
- discuss the effects of lack of self-discipline.

I. History, Literature, and the Arts Languages, And Geography

High school graduates will use their understanding of the social sciences, literature, and the arts to demonstrate the dispositions of resourceful, adaptable, responsible citizens. The contents of the social sciences, literature, and the arts can be used in many ways to educate the graduate inferred from the survey. Typically, the curriculum in these areas has not culminated in the well-rounded graduate, as many students fail to see the relevance in studying these fields. The study of these fields should be enabling. They should be designed to help students use their analytic skills. A sample of outcomes in these areas might include the ability to:

- draw analogies between the present and the past;
- read the newspaper for content, fact, and opinion;
- recognize cause and effect relationships in literature and in the social sciences;
- understand how to approach the problems caused by change;
- interpret and analyze the implications of social and historical events;
- understand how social scientists define and solve problems;
- state hypotheses and explain the roles they play in problem solving;
- interpret social science data;
- defend one's point of view using logic;
- detect bias in written and visual material;
- draw inference from information;
- use the tools of historical analysis to study the origins of world cultures;
- indicate how art and life imitate one another;
- describe the attributes of different artistic and literary styles;
- describe the relationship between the arts and self expression;
- use map and globe reading skills;
- orient on a map;

- locate places on a map or globe;
- compare maps and draw inferences;
- understand the contributions made by major cultures in the contemporary world;
- use the key concepts of geography such as culture, diffusion, and social stratification to describe how cultures are similar and different;
- chart the impact of humans and their economic, social, and political tendencies on physical geography; and
- describe the impact of industry and technology on various cultures.

J. Government, Politics, and Economics

Civic responsibility requires that high school graduates understand the roles of individuals and group process in the continuation of a free enterprise democracy. A curriculum built on civic responsibility will have to provide direct participation in the economic and political enterprise. Some outcomes in the areas of government, politics and economics might include to be able to:

- identify situations in which political action would prove beneficial;
- plan a strategy to work with others to influence those in positions of political or social power;
- describe how the economic system works;
- analyze major economic problems of the day such as the effects of growth, inflation, unemployment, welfare;
- describe major economic institutions which affect daily living, such as the Federal Reserve and the Securities and Exchange Commission;
- apply select concepts in economics such as supply and demand, elasticity, inflation, recession to problems of personal economics;
- analyze the role of the individual in the political process, including the analysis of opinion surveys;
- describe how private and semi-public associations such as political parties and special interest groups influence policy;
- describe how the legislative process models resourceful problem-solving, adaptability, and civic responsibility;
- analyze the influences of such concepts as power, authority, compromise, conflict, and protectionism;
- design solutions to problems created by the checks and balances caused by the three branches of government;
- draw conclusions from tables, graphs, and charts on the participation of citizens in the political and economic systems; and
- analyze the relationships between the government and the economic system, where they converge, and where they separate.

Entry-Level Skills

In this section of the report, we briefly describe the attributes which we feel are prerequisites for beginning this high school curriculum. We believe that there are only four attributes of entering high school students: 1) confidence in their abilities to use their basic knowledge, 2) opportunities to assess oneself as a contributing member of a group, 3) a positive self-concept related to schoolwork and peers, and 4) an open-mindedness toward inquiring and problem solving. If middle school students possess these characteristics, we feel that they will be ready to handle a high school curriculum based on problem solving, adaptability, and civic responsibility where the emphasis is on developing students to use the knowledge rather than to possess it.

Implications for the Future

The curriculum described in this report offers many opportunities for the high schools of the future. We can conceive of high schools where there is innovation, new instructional arrangements, alternate methods of assessment, and new patterns of interaction in the school. In this section of the report, we offer an array of implications to which others may want to add. We are very hopeful that these suggestions help stimulate the generation of other creative futures. We acknowledge that many of these are not new, nor are they presented as such. Many are innovations of the past found wanting before they were tried.

Instruction. The clearest implication of the survey information is that the time is right to reconsider the organizational arrangements of high schools and how instruction is delivered in high schools. With the focus of the curriculum being on the use of knowledge rather than its possession, instructional arrangements should be altered to model in larger concepts which tie subjects together. For instance, we noted earlier that the approach to curriculum outlined in this report suggests that instruction might be divorced from the six or seven period day of one subject at a time and might use an interdisciplinary approach which shows the relationships between any two subjects and/or across all subjects. This approach to curriculum might breathe new life into team teaching where all teachers involved in a team teaching arrangement attend and participate in every class meeting.

Concurrently, reorganizing the present curriculum to model the use of subject matter can mean flexible grouping arrangements that take advantage of the students' strengths and minimize public display of their weaknesses. We think such flexible arrangements model adaptability and personalize the curriculum for the students. It is conceivable that some underprepared students will be allowed to experiment with alternate tracks from the usual accumulation of Carnegie units on a fixed schedule. Perhaps some schools will allow alternate and more personalized tracks for some students.

Such flexible instructional arrangements can be enhanced through technology. Some high schools in the state are already experimenting with telecast courses in math and science. We think such arrangements could be expanded to other instructional areas and also to the community. For example, there are increasing numbers of teleconferences on issues of public importance. Likewise, some teachers have used resources in the local community to bridge the gap between the school and the "real world." Many of us know a teacher who makes excellent use of the community in his/her teaching. In the curriculum outlined in this report, internships; community-based activities; volunteer services; partnerships with local businesses; as well as developing a guest speakers bureau comprising local citizens, business persons, or highly skilled employees opens many new doors for students. The resourceful, adaptable, and responsible student should have repeated opportunities to interact in the community through school-related, structured experiences.

Teachers have always used field trips as a means to bring the students to the "real world." However, we can envision increasing the number of opportunities students have to experience the community by working with a local public agency, by shadowing various civil servants or private sector workers, or by assuming a position in a study of the local community. The right curriculum can teach all three facets of the high school graduate of the future. The students can track a problem in the community, locate resources in the community, learn the skills of social interaction, and generate solutions which demonstrate civic responsibility. We believe these experiences can become the norm rather than the exception. Just as technology is bringing the world to the classroom, the community has the potential to be one of the best classrooms available to the high school student.

Outcomes and Assessment. As we have suggested throughout this document, the curriculum will need to be designed to teach problem solving, adaptability, and responsibility. Because textbooks currently available from many publishers are not oriented to develop the inquiring mind, it will take a great deal of searching to locate books organized around the characteristics described in this report. In fact, Kentucky may have to join other states which are demanding better textbooks from the publishers. The restructuring called for in this report also will require the development of a new statewide test which drives the curriculum. It is important to assess the degree to which students can apply their skills and knowledge to solve a problem alone or with others rather than solely testing how well the students perform on the minimal basic skills. It is almost a platitude to state that "the test drives the curriculum," but in most instances it is true. When teachers and students have a clear sense of what is expected of them, they will tend to hit the mark rather than miss it. We would like to take advantage of the lesson learned from the Kentucky Essential Skills Test. The lists of outcomes provided a focus for teachers and for students; however, the results of the statewide survey indicate that the skills do not "cover the waterfront" concerning what schools can achieve. The curriculum implied in the statewide survey has new outcomes which are at a higher level. Teachers must be made aware of the outcomes associated with this curriculum so that they can locate teaching materials and other instructional activities. Inservice teacher education programs will be required on a variety of topics including the new state curriculum; designing alternate assessments to measure problem solving, adaptability, and responsibility; organizing alternate instructional activities such as independent studies and internships; and the use of technology.

Local Initiative. Nowhere in this document have we suggested that the state reduce the prerogative of the local school district to decide how to meet the new outcomes. In fact, we believe that the survey indicates a greater role for local initiative. We believe that the outcomes and the implications listed and described throughout this report offer far more latitude for local educators to generate numerous innovative practices to achieve the outcomes we have described. We think that the high school faculties across the state should be responsible for designing programs which address the image of the student described in this report. We believe that principals and teachers must collaborate on how to best achieve this image. We hope there will be support for a school building or a school district to design new instructional arrangements, new patterns for grouping students, innovative collaborative arrangements for teachers, or even a new administrative arrangement for a building. The possibilities are numerous.

Teachers. The implications for teachers and teaching are endless. New goals, such as those described in this document, offer new challenges to teachers--challenges that will allow them to be explorers in their fields rather than "givers of information." We think that one of the implications from this work is that how the typical day is structured for a teacher may change drastically. The isolation which characterizes the typical teacher's day could be removed through a team approach to using subject matter for teaching problem solving, adaptability, and responsibility. Teams may be two teachers from different disciplines or a "school within a school" approach where four or five teachers are responsible for 120 or so students; where the teachers plan together; and where they coordinate areas of study, teaching responsibilities, and schedules. We think that if students are to experience curriculum to learn to solve problems, adapt to the setting, and be responsible to the group, they will need to experience the flexible instructional arrangements necessary to enhance their own abilities. In short, the teachers, the curriculum, and the school environment will need to model the type of behaviors that characterize the outcomes Kentuckians seem to desire in the high school graduates of the future.

Teacher Education. The implications for teacher education are as foundational and as far reaching as they are for the high school curriculum. Teacher education institutions will have to reexamine what it means to prepare competent beginning teachers who can deliver the type of curriculum described throughout this document. Teacher education programs will be responsible for teaching preservice teachers how to design curricula that capture and highlight the interrelationships of the subject matter areas and which promote the image of the student described throughout this document. Professors of education, and perhaps professors of all disciplines, will need to model the teaching skills of those who seek an education which is more than the sum of collected information but which directly demonstrates how such information fits into larger pictures of knowledge, decision-making, and thoughtful analysis.

Final Note

These are not Utopian visions imagined by the High School Task Group. These are implications for schooling drawn from what Kentuckians think should be the outcomes of schools. Values such as work ethic, honesty, integrity, problem solving, adaptability, and civic responsibility are not taught solely via lecture and textbooks. These outcomes must be tested in application settings. The independent problem solver will not develop the appropriate disposition by being dependent on the school and the teacher for control and for subject matter. The structure of schools will have to change if we agree that the outcomes of high schools are to prepare resourceful problem solvers who are adaptable, civic participants.

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Expectations for High School Graduates
Outcomes for Vocational Students

Vocational Task Force Report

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COUNCIL ON SCHOOL PERFORMANCE STANDARDS EXPECTATIONS FOR HIGH SCHOOL GRADUATES

Outcomes for Vocational Students

Vocational Task Force

The vocational task force addressed the question, What outcomes should a student have upon graduation from high school?

Kentucky residents (825) were contacted by telephone to give opinions about outcomes for high school students. A population of 625 residents was selected randomly; the other 200 residents were randomly chosen from 11 groups of opinion leaders. The opinion leaders represented chief executive officers of corporations, employment counselors, chamber of commerce members, school board chairpersons, superintendents, PTA chairpersons, Prichard Committee members, legislators, community college faculty, and teachers K-12.

The Expectations for Kentucky High School Graduates Survey (hereafter called "the survey") explored outcomes in three sections. The first section of the survey asked respondents to react to student outcomes in 11 areas such as computers and technology. They selected a category that represented how many students should be expected to have certain outcomes for each of the areas. In the next section, there were 10 areas of instruction to rate. Each survey completer stated how much time should be allotted to each of the areas in comparison to a 100-hour standard for government, politics, and economics. Then, the importance of the values that Kentucky graduates in the next 10 years should have was determined. The survey completers indicated who was responsible for instilling each of the values.

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There was agreement among Kentuckians completing the survey about the characteristics of a high school graduate. The general population and opinion leaders agreed that graduates should be honest, work hard to do a good job, respect authority, be responsible, and respect individual rights. A sharing of these values by the school and home seemed to be indicated. They also agreed that a major responsibility of the schools was to develop the values of democracy, concern for the environment, the free enterprise system, and education for life-long learning. The value, education for life-long learning, was the only value approaching an extremely important rating.

The task force strongly agreed with much of the survey results. The task force agreed with 11 groups of opinion leaders and the general population that reading, writing, speaking, and math should be allotted a significant amount of time for instruction. The task force also agreed that education pertaining to work, employment, and earning a living required more time than a number of other instructional areas. There was some disagreement. The task force was much more positive about computer use than Kentucky residents. Additionally, many of the areas considered important to Kentuckians seemed to be important when considering education as a whole but less essential when thinking about what was needed to prepare students for work and further education.

The task force used the survey results as the basis for selecting outcomes. The various backgrounds of task force members resulted in different points of view in decision making. The task force consisted of several teachers, a teacher educator, an area vocational school principal, a local school district principal, and an assistant division director from the Office of Vocational Education. These educators represented teachers, administrators, teacher educators, curriculum developers, and state-operated schools and local school districts.

Draft copies of the paper were distributed to vocational education teachers, administrators, and teacher educators. There was general support for what was presented, with most discussion focusing on the structure of education. Educators were concerned about the ability of education as a whole to accept and offer education related to the proposed outcomes.

The goal of the task force was to focus on outcomes for high school students. Because entering vocational students are products of elementary, middle, and high schools, discussions of outcomes always considered the education available to students throughout their school years. The remainder of this paper describes the vocational graduate, discusses outcomes for students pursuing vocational education, lists entry level requirements, and presents implications for the future.

The Graduate

Citizens of Kentucky gave very strong support to preparing students for work and earning a living. They recognized that having a good job forms the basis for being a participating citizen of Kentucky.

A recent graduate from vocational education should have a well rounded education to enter society as a participating and contributing member. The graduate must have the skills to attain entry level employment in a specific occupation or the background to enroll in further education. Additionally, the graduate must be able to cope in a positive way with the many changes occurring in employment and society.

The graduate intending to go to work must have occupational skills. These are the skills common to a wide range of tasks and essential for competence in the workplace. These include job skills, knowledge, and hands on derived from what workers do on the job. Another skill area, employability, helps the graduate know how to find, adjust to, and succeed on the job. Applied basic skills in reading, math, science, and communications are essential to success in both the workplace and community. Knowing how to use computers and associated hardware can be applied to many of the skills needed for employment.

Social skills are part of the vocational graduate's profile. The graduate must know how to relate with people to maintain individual poise and group harmony. These skills are also important when working and participating in community activities.

The vocational graduate must be able to effectively use transfer skills to accomplish work assignments, shift from one activity to another, and deal with problems and difficulties. These skills are needed to generalize from occupational skills to unfamiliar job assignments and when graduates must apply social skills to different situations. Another skill, problem solving, complements the student's ability to transfer learnings. The graduate must know how to problem solve and be challenged when problems occur. For more difficult problems, the graduate must suggest relevant solutions and seek assistance when solutions cannot be found.

The vocational graduate must have positive work attitudes on the job. The new worker must come to work on time, be enthusiastic, work hard, be dedicated, and take pride in what is accomplished. Vocational instruction must identify and teach attitudes which are necessary to succeed. The vocational graduate must know the importance of particular attitudes and be prepared to display these attitudes at work.

Occupational Skills

This section provides outcomes which are primarily the responsibility of vocational education. Some of the outcomes are already included in the present vocational education system, others are new considerations. No attempt was made by the task force to duplicate what was already in place or offer something new for the sake of change. The task force proposes what is best for helping students in Kentucky. Outcomes are presented that will enhance the quality of vocational graduates entering business, industry, and health care positions.

A number of program outcomes are based upon occupational skills needed to be employed in selected jobs or occupations. Other outcomes are intended for students intending to enroll in further technical training or education. Instruction involves both knowledge and hands-on development of job skills, employability skills, applied basic skills, and computer skills. In addition, outcomes specific to occupational goals include mastery of complementary technology; related mathematics and science; technical communication skills; drawing, art, and/or design; labor and industrial relations and management; and other directly related and supplementary experiences.

Job Skills

Students have diverse backgrounds and interests. Since students have educational choices, programs must be offered that have broad-based appeal. Programs should range from less technical to highly technical. The programs must be selected to match employment opportunities in the Commonwealth.

Vocational education should be available for all who need and can profit from the training. Average students, the majority in our school system, may benefit most from education for work. These students can be accommodated by programs leading to employment in semi-skilled jobs to skilled and technician positions. A diversity of programs can be offered, as previously discussed, and education for a nunber of jobs can be made available in each program.

Programs should be offered so students can enter and advance in the workplace. Of 30 million middle level workers in the national labor force, 11.3 million are presently classified as technical workers. The ratio of technical to nontechnical worker will continue to increase. This fact provides direction for vocational education. Technical type programs should be given high priorities for implementation.

Business and industry are providing about one third of the formal training needed by technicians. Most of the training is provided to upper management and professional technical workers. Younger workers have fewer opportunities for training because they are usually employed in lower level positions. Some of the education for future technicians can be provided by vocational education. Other training is obtained after high school. Vocational education needs to provide education for students enrolling in further technical education.

Education should be provided that is highly responsive to local and area businesses. If jobs are available, the school should work with business, industry, or health care organizations to develop and offer education leading to employment. Both short- and long-term courses should be offered at various times and days of the week.

There need to be programs available that combine tasks from a number of programs. These "clusters" of tasks provide students with skills for more than one position. For example, a student might take short courses in electronics, hydraulics, pnuematics, and machine shop as a planned program to meet specific employment requirements for a particular industry.

Instruction in programs can be provided in a formal setting of the school or cooperatively on the job. In many instances, program outcomes should be designed in cooperation with employers and offered and evaluated in on-the-job settings. The available expertise and equipment in the work setting should be considered when designing outcomes. Following are sample outcomes:

1. The student intending to obtain immediate employment should be able to display a listing of completed tasks which match what is required for one or more jobs.

2. The student intending to obtain a technical position should be able to display a listing of completed tasks which match what is required for a position.

3. The student intending to pursue further technical or higher education should be able to display a listing of completed tasks which relate to future educational goals.

4. The student intending to obtain employment from completing a short-term program should be able to display a listing of completed tasks which reflect what is needed to be employed.

5. The student intending to be employed in an occupation should be able to display a listing of a cluster of completed tasks which relate to a number of employment offerings in an occupation.

6. The student should be able to display a nunber of tasks completed in a business, industry, or health care setting.

Employability Skills

Employability skills are put into action when a vocational graduate seeks employment. The graduate must know how to choose available jobs leading to a job search. Special skills, such as presenting an acceptable appearance and moving up the career ladder, are desirable to remain employed. The graduate also may have to change jobs. When the situation occurs, employability skills can help make a smooth transition from the present to new job. Sample outcomes for this area are:

1. The student should be able to choose an appropriate job. This can be accomplished by comparing personal traits to a variety of jobs.

2. The student should be able to search for a job. Examples of searching are: prepare a resume, identify job leads, make contacts, complete an application, and write a letter of application.

3. The student should be able to succeed on the job. This can be accomplished, in part, by practicing good work habits and presenting an acceptable personal appearance.

4. The student should be able to change jobs. Examples of skills for this activity are: quit a job in the acceptable manner and list steps to obtain a new job.

Applied Basic Skills

The basics of education are very important to students, regardless of the paths of life they choose to follow. This was recognized by Kentuckians completing the survey. The general population and different groups of opinion leaders said that more time should be allotted to this area than any other segment of education. It is interesting to note that a question about the need to understand an owner's manual was answered more positively than any other question about the basics. It appears that Kentuckians are consistent in supporting applications of education to work situations.

Teaching the basics is a shared responsibility of all educators. The high school is responsible to teach math, communication skills, and science with the goal to expand each student's proficiency to grade level or above. The responsibility of vocational education is to add applications to the basics so advanced skills can be learned. Also, vocational education accepts responsibility to assist underacheivers to reach grade level proficiency in the basics by the time their vocational programs are completed. Most science and math outcomes are particular to the vocational programs in which students are enrolled. For example, a math outcome in carpentry could relate to calculating the cubic yards of concrete needed for a particular job. An electronics outcome may be to solve a problem using the addition of vectors in rectangular form. Example outcomes for math, science, and communications are as follows:

Math. Math is very important in the majority of occupations. The amounts and difficulties of required math vary from occupation to occupation.

1. The student should be able to use a calculator.

2. The student should be able to solve math problems related to the occupational area. This outcome relates to solving the usual problems associated with work. For example, the drafting person would have to calculate the scaled dimension of a machine.

3. The student should be able to make math applications to unusual job situations. This would require the use of math for unplanned occurrences. For example, an electronics technician may have to decide what math to use when parameters of a faulty circuit are calculated.

Science. Science is very important to students preparing for work and/or further education. This importance was supported by school board members who rated this area higher than 10 other groups of opinion leaders. Teachers and superintendents rated this area high. Perhaps persons close to the schools recognize the influence of science on many educational and career pursuits.

Vocational education must include science instruction to provide a background for learning and accomplishing job tasks. This encourages students to make applications of content to hands-on tasks and adaptability to new situations. Also, a good science foundation forms the basis for problem solving to accomplish difficult tasks. Additionally, students should be taught where to find new information for making applications to what is already known.

Science is the foundation for appropriate disposal of wastes. This is a concern of society and a particular responsibility of vocational education. In work-related instruction where shaping, repairing, assembling, and relating with people results in wastes of many descriptions, appropriate instruction is necessary. Students must learn to identify and dispose of hazardous materials of the occupation.

In a number of occupations, science is the basis for licensing and employment. Health occupations programs such as practical nursing and cosmetology are examples of programs where in-depth science study is necessary. Sample outcomes for the science area are as follows:

1. The student should be able to apply science principles and information to job-related tasks. For example, a graphic arts student must know how to apply scientific information to the mixing of chemicals used in the printing process.

2. The student should be able to apply science information that is required for licensing and/or job entry tests and/or entry into further technical education.

3. The student should be able to know where to look for new scientific information related to the occupational area.

4. The student should be able to use new scientific information to make modifications in certain procedures and processes. For example, students from practical nursing would change procedures in assisting patients when new information was introduced about the side effects of certain drugs.

5. The student should be able to describe hazardous materials in the occupational area and discuss how safe waste disposal is accomplished.

Reading. The student should be able to read and follow directions concerning job assignments. Reading to understand requires the student to determine meaning from written information and a variety of technical communications including charts, graphs, tables, and technical information. The reading difficulty of materials should reflect what an entry level worker is required to accomplish.

1. The student should be able to read and follow directions for understanding. The directions should contain symbols used in the occupational area.

2. The student should be able to read technical information for assembly, maintenance, and/or troubleshooting.

3. Students should be able to read technical reports for understanding. The reports would be obtained from business and industry.

4. Students should be able to read technical information for understanding. Information could be from textbooks, handouts, instruction sheets, etc.

Writing. Future workers should be able to communicate in writing to other workers, supervisors, customers, and vendors. They must be able to do this as required by the occupational area.

1. The student should be able to write technical reports using appropriate composition skills. These reports would contain the various symbols of the occupation used to convey information in conjunction with text.

2. The student should be able to write job-related reports and directions.

3. The student should be able to write business letters related to occupationally-related situations.

4. The student should be able to write technical information on business forms.

5. The student should be able to assimilate technical information into written reports.

6. The student should be able to write responses to positive and negative complaints of customers.

7. The student should be able to transfer oral conversation to written form.

Speaking. The most common form of communication used on the job is speaking. Students must be able to express themselves in clear, concise, and appropriate language.

1. The student should be able to analyze customer complaints and transfer the meanings orally.

2. The student should be able to talk to customers in an appropriate manner when discussing products, services, and complaints.

3. The student should be able to give directions orally.

4. The student should be able to provide convincing arguments to solve different job problems.

5. The student should be able to communicate effectively at meetings.

6. The student should be able to engage in a one-on-one dialogue relating to an occupational situation.

Other Communication Outcomes. There are several other outcomes to enhance the ability to communicate.

1. The student should be able to understand nonverbal communications of customers, other workers, and supervisors.

2. The student should be able to listen effectively in an occupational situation.

3. The student should be able to manage conflict resulting from attempts to communicate.

4. The student should be able to make occupational application from oral directions.

Computer Skills

Using computers is an everyday occurrence on the job. A worker may use computers to schedule work, order parts, test out equipment or machines, check a patient's medical record, or accomplish a variety of other tasks. Computers are used in every aspect of employment and will become more prevalent and efficient in the future. It is incumbent on vocational education to include computer use in the instruction.

Opinion leaders and the general population in Kentucky were not overly positive about educating nearly all students to keyboard and use computer programs. The task force is much more positive about computer use and included outcome skills as needed. There seemed to be agreement between survey responders and the task force that most students do not need to know how to write computer programs. There may be some students in technical programs that will have to develop computer programs to satisfy particular job-related tasks. Other students who are going on to further education or are learning more advanced computer techniques may need to use this skill.

Some selected occupational areas need more advanced training. The CAD system in drafting, the CAM system in machine shop, and various accounting and word processing systems in business education programs are examples of computer applications to vocational education.

Vocational students need to be computer literate. Computers should be a planned part of delivering instruction. Other technologies such as interactive video and equipment simulators should be considered for use.

Example outcomes for computer literacy are as follows:

1. Students should be able to use the computer keyboard to input information.

2. Students should be able to use computers and related hardware to input information and print out the results.

3. Students should be able to use appropriate software for the occupational area.

4. Students should be able to understand how computers are used in occupations.

5. Students should be able to use the computer to accomplish management tasks. For example, a graduate from plumbing should be able to use the computer to inventory parts and materials.

Work Attitudes

Students with positive attitudes are better prepared to meet career, educational, and personal goals. Positive attitudes should be developed in all educational experiences. This is especially important in vocational education where students are being prepared for the world of work.

The ability to display appropriate work attitudes is very important for a worker. Good work attitudes are needed to get a job, remain employed, and earn promotions. Attitude development must start from the time students enter the school, and continue throughout instructional activities. To accomplish this, attitudes must be clarified, prioritized, and developed. Attitudes should be evaluated and reinforced through continuous and consistent instruction and supervision. Examples of attitudinal outcomes are listed below:

1. The student should be reliable. Examples of indicators for reliability are: a student completes work on time, a student carries out instructions, a student works without constant supervision, a student has a good attendance record.

2. The student should be efficient in completing work related assignments. Examples of indicators for efficiency are: the student works at a fast pace while maintaining quality, the student uses accepted shortcuts to accomplish work-related tasks, the student selects the easiest way to accomplish tasks while retaining quality, the student plans what should be done to complete an assignment.

3. The student should be responsible. Examples of indicators for responsibility are: the student consistently follows the right course of action; the student is dedicated to complete assigned work; the student follows rules, directions, and supervisor's instructions; the student does what is asked without negative verbal or nonverbal responses.

4. The student is punctual. Examples of indicators for punctuality are: the student has a good record of attendance, the student is always on time to work, the student begins work without repeated directions, the student completes parts of assigned tasks in appropriate times.

Transfer Skills and Problem Solving

Transfer and problem-solving skills are necessary to make applications to new learnings and activities. Educators at every educational level should ensure that students are involved in experiences that develop and refine these skills. Vocational education can be very effective in this effort, as the combination of hands-on and knowledge learnings complements the ability to transfer and problem solve.

Transfer Skills

Transfer skills are used throughout life to learn something new. The skills are initially developed by helping students to learn step by step from the simple to complex. As principles, concepts, and information are learned, students can generalize to other content. In vocational education, transfer skills link content to occupational competence. As new and more difficult tasks are learned, students build a foundation of occupational competency that can be used to attempt many tasks found in advanced education or on the job. This factor requires teachers to provide a good foundation of occopational skills and knowledges so transfer skills can be refined.

A fundamental skill for the vocational student is to transfer what is known about one task to another task in the same assignment. Teachers must carefully select assignments for difficulty and ease of transfer from task to task. The tasks may be completed in the same environment with the same conditions, or the location and conditions may change.

Adapting to new occupational situations is a difficult transfer skill. This skill must be used when a student moves from a task on one assignment to a task on another assignment. Or, the same outcome may be expected from a task, but the method or approach is changed. Additionally, a different work station may be assigned; or there may be changes in priorities, responsibilities, workload, or instructions for completion.

Transfer skills can be reinforced by designing a series of similar experiences. The degree of transfer expected should be specified. Activities should be designed which require transfer from familiar to unfamiliar situations. This causes students to use transfer skills through the linking of concepts and principles to new occupational skills.

Also, transfer skills can be used to make transfer of knowledge to social situations. Group activities, work simulations, and youth organizations can be used as vehicles for development. The experiences should include socializing in different environments and working with people of different characteristics. Sample outcomes for transfer skills are as follows:

1. The student should be able to demonstrate transfer skills when accomplishing a set of activities, both social and task oriented.

2. The student should be able to demonstrate transfer skills for a few activities with different difficulty levels.

3. The student should be able to save time when accomplishing various activities.

4. The student should be able to display behaviors which indicate the application of earlier learnings to activities. For example, a student may ask appropriate questions, search for and find appropriate information, and complete tasks without supervision.

Problem Solving

Problem solving is a desirable skill for vocational students. The skills of problem solving are needed to maintain employment and be promoted. There are limited employment opportunities for workers who cannot solve problems in a variety of occupational situations. Graduates need problem-solving skills to make appropriate decisions of a personal or social nature.

From the task force's perspective, vocational students in every program need to be provided experiences in problem solving. These experiences should be related to occupational content, designed to parallel job situations and everyday life. For example, an electronics student could be provided a computer board to troubleshoot. In another program, students could be presented a transportation problem such as, What happens if a worker's car breaks down a few hours before going to work? When problems are presented, the student should be able to use an appropriate problem-solving technique to arrive at one or more solutions.

Students should be able to solve problems in accordance with what is required of successful workers on the job. If this is accomplished, graduates will build quality work experience. They will know how to go through the problem-solving technique and to apply what they have learned to a variety of job-related activities. Some possible outcomes for problem solving are:

1. The student should be able to express a general problem-solving technique as it relates to occupational content.

2. The student should be able to solve problems common to the job. For example, a student in carpentry could calculate the board feet needed to complete a job.

3. The student should be able to describe the value of obtaining information while solving a problem. For example, an electronics technician should describe what various voltage readings mean while troubleshooting a faulty circuit.

4. The student should be able to describe and carry out appropriate problem-solving techniques for a number of problems in different content areas of the occupation.

5. The student should be able to obtain appropriate information needed to solve selected problems.

Social Skills

This section discusses social skills as they relate to workers and people outside the workplace, particularly customers and the general public. It is implied that social skills developed in vocational education will provide opportunities for transfer to other social situations in life. Also, the focus on social relationships in the elementary, middle, and high school provides a background for social development in vocational education. The areas selected for discussion are self skills, group behaviors, health fitness, understanding cultures, and government and economics.

Self Skills

If a student selects a program that is a match with individual characteristics, abilities, and aptitudes, the development of self-esteem is enhanced. The teacher can use skill and knowledge development to help each student gain self-confidence and self-worth. As a student accomplishes more and more, the instructor can provide greater opportunities for responsibility and reward. The student who lacks self-esteem can develop into a confident and competent student, ready to meet all challenges in the workplace.

Self-sufficiency is important for graduates who must display individual competence on the job. When workers are given assignments, they are expected to complete them with quality in a minimum amount of time. Other workers may be involved, but the individual is responsible to meet what the assignment requires. Vocational instruction must include a variety of experiences that help students accomplish individual tasks.

Setting goals, planning, and working toward goals are attributes of successful workers and participating members of society. These skills must be developed throughout a vocational program and combined with self discipline and time management. Some possible outcomes in this area are:

1. The student should be able to read directions and accomplish new work-related goals.

2. The student should be able to plan what will be accomplished during an employment period.

3. The student should be able to converse easily with authority figures.

4. The student should be able to demonstrate self discipline in a variety of situations. An example is: A student will seek assistance and remain calm when the assignment is not going as planned.

5. The student should be able to complete activities in other ways when supervisor and/or customer responses imply needed changes.

6. The student should be able to show flexibility when things don't go as planned.

Group Behaviors

Because of the nature of vocational training, there are opportunities for the instructor to plan, implement, and evaluate many experiences that require continuity. This can result in students resolving conflicts in nonviolent manners while learning how to work together in groups. Student organizations provide numerous opportunities for students to cooperate together in groups. The following examples of outcomes are presented:

1. The student should be able to establish positive relationships with other students in a group setting.

2. The student should be able to be patient with other students.

3. The student should be able to actively participate in group functions related to the training program. An example of participation is when a student assumes a leadership position in a legislative session of a youth organization.

4. The student should be able to resolve conflicts without violence.

Health Fitness

This area is important, as reflected by the high rating by Kentuckians completing the survey. Both the general population and opinion leaders ranked this area third of 11 in importance. However, both groups selected less time for instruction for this area than for other areas. The task force believes that this area takes on additional importance for vocational education. Workers cannot remain employed and succeed unless they are dedicated to health fitness and personal hygiene.

Instruction must include the policies, laws, and traditions in the workplace and society that result in a healthy body. This will prepare students for expected health and hygiene practices at work, in education, and in the community.

Many students will eventually work with or will be near people who may have diseases, such as AIDS. Vocational education must include instruction about work hazards and prevention procedures for diseases encountered on the job. Also, work in many occupations can result in injury if certain health factors are not considered. The relationship of health hazards to lifting, stooping, climbing, and other physical factors should be included in instruction. Some sample outcomes for this area are:

1. The student should have an understanding of alcohol and drug abuse.

2. The student will understand employer expectations in relation to alcohol and drug abuse.

3. The student will be knowledgeable about various diseases encountered in the workplace.

4. The student will be knowledgeable about possible health hazards of an occupation.

5. The student will be able to describe preventive measures for diseases and hazards encountered on the job.

Understanding Cultures

Understanding and living in harmony with other cultures is especially important to vocational students in Kentucky who work with persons of different cultures and ethnic groups. Outcomes for this area might be:

1. The student should be able to understand the likenesses and differences of major ethnic groups who might be customers.

2. The student should be able to state contributions of major ethnic groups and understand communication differences between cultural and ethnic groups in the immediate geographic area.

Government and Economics

Students must understand government and economics to become participating workers and citizens of Kentucky. The completers of the survey seemed to agree with this statement, as the area was rated high in importance.

The content of how government agencies operate is very important to students who may, in the course of employment, have to interpret regulations and requirements. Also, there may be times when former students have to be involved with court proceedings because of occupational occurrences. Instruction should include discussions of legal risks of an occupation in relation to possible court proceedings.

Many students will eventually run a business or be a participating member of a small business firm. Economics principles must be addressed such as entrepreneurship, how to buy equipment and materials using credit, offering services and products at the best price, and supply and demand in business environments.

Graduates are family members as well as workers. They should know the advantages and disadvantages of various employment in relation to family life. Graduates also provide goods and/or services to parents and families. They should know how families may budget their money and how to check credit ratings of family members. Knowing about options in homeowners, renters, or automobile insurance would be helpful to future business owners. Sample outcomes for government and economics are as follows:

1. The student should be knowledgeable about possible liabilities associated with working in the occupation.

2. The student should be knowledgeable about the laws and regulations pertaining to the occupation.

3. The student should be knowledgeable about the advantages and disadvantages of entrepreneurship.

4. The student should be knowledgeable about loan arrangements and interest charges.

5. The student should be able to describe possible options for insurance claims from insurance policies such as homeowners, renters, and automobile.

6. The student should be knowledgeable about rental arrangements for business property.

7. The student should be able to describe how to check credit ratings.

8. The student should be able to describe payment options for services rendered.

9. The student should be knowledgeable about latch key children, single parenting, family planning, and parenting.

10. The student should be able to describe the risks to family life when self employed or working for someone else.

11. The student should be able to describe the advantages and disadvantages of different levels of work responsibilities in relation to keeping a family together.

Entry Level Skills

Vocational education should prepare students for immediate employment after high school or for further education.

Vocational education can effectively accommodate a student who makes the choice to enroll; understands the objectives of the program in which enrolled; has the interests, aptitudes, and abilities necessary to profit from instruction; and plans to obtain employment or pursue additional education.

The choice to enroll in a specific program of vocational education should be the student's decision. Vocational education should be selected, in part, because the education helps the student meet career goals. Students must understand that the learning objectives for each program are based on either requirements to become employed in a particular job or certain skills which are needed to enroll in further education.

What has been described requires support from counselors, teachers, and parents. Students do not automatically arrive at career decisions. There needs to be an organized and early exploration process to provide and interpret information, advise, and solve scheduling and other school management problems. Also, someone should work with parents and friends to support what each student has decided.

Along with interest, students should have appropriate aptitudes and abilities. Aptitudes are assessed by testing and interviewing. Abilities are determined by testing of reading, writing, and math abilities, along with reviewing evidence that prerequisite courses have been completed. Students should be able to use the skills of math, reading, and writing at grade level proficiency. Some remedial help can be provided, but the majority of students should not be deficient in basic skills when they enter vocational education.

Implications

Proposed outcomes in this paper have broadened the scope of vocational education. The traditional outcomes of job skills were listed, but many other outcomes were added to expand and add quality to what is expected of the vocational graduate.

This was exciting for task force members who believe that the proposed outcomes will result in better qualified graduates. However, the task force recognized that there may be problems associated with implementing new and more difficult outcomes.

The basic problem is that new outcomes cannot be implemented if vocational education is treated as an entity in education. Vocational educators believe that work-related education should be an integral part of the educational system. This must be practiced by all public school educators if implied changes are to be effectively implemented. Education for work should be supported as "preparation for life," an opportunity to assist youth to prepare themselves to join society as active, contributing, and participating members.

All students should be provided opportunities to enroll in education for work. Most everyone has to work sometime in their lives. A large number of students go to work after high school, while many plan to enter the work force after completing further education. Some students go to work after a period of time has elapsed from completing high school. The task force points out that education for work would benefit all students. Yet, for a variety of reasons, not all high school students take advantage of vocational education experiences. Also, students in the elementary and middle grades are not always provided opportunities to become aware of and explore occupations.

For high school students planning to go to college, the benefits of attending vocational education are two-fold. Future college students could take advantage of experiences related to their college plans. Additionally, vocational education increases the likelihood of working part time. Students could get a head start toward their college plans while enhancing opportunities to obtain employment in the future.

By 1995, employment in high-tech industries is projected to grow almost 50 percent. At the present time, there is a small number of technically related programs in vocational education. The number of technical programs should be expanded. More students, including those who are going on to college, should be encouraged to attend.

Vocational education can provide opportunities for students who don't know what they want to do after high school. Exploration experiences could be designed to explore over 50 different occupational areas. This could assist students who make later choices for training or employment.

When considering the needs of all students, educators should provide a quality education without attaching priorities to college preparation or education for work. Each and every school should contribute to the education of students, using an expanded view of what can be accomplished for all students.

The task force proposes that both vocational schools and high schools must be responsible for providing comprehensive educational programs for all students--those who plan to go to work, students who select college, and students who have not yet made career plans. The vocational school should focus primarily on education for work, but educational experiences should be available for students headed for college or technical schools. High schools should provide course work for students going to college and those intending to work. Students with other goals should be able to select a combination of work and college preparatory related courses. The middle and elementary schools should structure education with the knowledge that students need a quantity and quality of experiences to pursue either work or further education.

There should be only minor differences in vocational schools and high schools. Vocational schools should have more of the larger equipment and materials, more hands-on programs, and most of the teachers will have a number of years of work experience. The high school should have some work-experienced teachers, some technical courses and equipment, a number of courses for students going to work, and courses for the college bound. Both the vocational school and the high school should be academic, setting high standards for students and cooperating to meet the needs of the student population.

There would be new courses and programs as a result of the proposed outcomes and implied expansion. For example, in a small high school there could be two elementary algebra courses. One of the courses would be theoretically based; the other course would deal with applications to occupational situations. The applied courses would make use of students' goals and interests to structure content, design projects, and provide hands-on applications. In the area of science there could be an applied physics course such as Principles of Technology. Other appropriate physics courses would be available for students planning to go to college. Other course offerings would be available in the areas of math, science, history, etc. Every offering in the high school would be designed to meet the specific needs of students going to college, planning to work, or striving to make career decisions.

Vocational programs also should be modified to be more effective in delivering education. The present programs could be retained, providing they met student and community needs. There should be short courses within vocational programs for students planning to enroll in technical schools or colleges. Exploration experiences, seminars, and workshops should be available, along with courses designed to conbine tasks from a number of programs. Educational experiences should be implemented on short notice, and scheduling of courses should be flexible to accommodate students. Students would come and go, enter educational experiences at different times and dates, and exit programs when the experiences were completed. The vocational school should be an exciting place for students with different interests, characteristics, and career goals.

Other options should be available. High school students who cannot decide on appropriate career goals should be able to find relevant exploratory courses in both the vocational school and high school. The vocational school should provide exploration experiences in most occupational areas, the high school should offer courses to explore occupations requiring further education. There should be more cooperative exploratory programs between vocational education and the high school. An example of a cooperative exploratory program is the Shawnee-Detrick Vocational School project in Louisville, where 10th graders were placed in different programs for about four weeks to explore interests and aptitudes.

Each student in high school should follow a plan for educational preparation. The plan would be carefully developed by considering what the student intends to accomplish in relation to available experiences. The plan could include experiences requiring students to go from high school to vocational school or vice versa. A student desiring to be an electronics technician could enroll at the vocational school for the electronics program while taking theoretical and applied math and science courses at the high school. A future electronics engineer could take many theoretically based courses and a few applied courses at the high school and supplement these offerings with a robotics course at the vocational school. Students would be able to select many options from the flexible and quality educational menu.

To implement such a plan, there should be more courses and programs at all levels of education. An awareness of work would have to be expanded in the elementary curriculum. Orientation experiences should start in the middle school and continue in both the vocational and high school. Preparation experiences should be available early in high school, continuing until the end of grade 12.

A great deal of effort, time, and financial resources would be required to implement education to meet the plans of students. The task force recommends that each student be asked to make a commitment to pursue the plan until at least the 18th year of age or graduation. This commitment should be matched with assurances from the school to assist students, in every possible way, to complete educational plans.

There are numerous choices in the task force suggestions for how, where, and when various outcomes of education are offered. Many reasons can be found in support of the present educational system. However, the benefits of making education interesting, challenging, relevant, and helpful for students dictate the need for change. The task force requests strong consideration for the suggested outcomes and proposed changes in how education is structured.

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APPENDIX E

Assessment Task Force Report

Assessment Task Force Report

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Purpose: What It Is and What It Is Not

What the Purpose Is

The Task Force on Assessment has been asked to propose an assessment system that will drive instruction. The assessment system should drive instruction in a way that increases the probability that the outcomes delineated by the other task forces will be achieved by individual students. The concept of assessment- or measurement-driven instruction is controversial (e.g., Airasian, 1988) and strikes fear in the hearts of many educators. Assessment-driven instruction will be discussed further at the end of this section.

What the Purpose Is Not

The TFA has not been charged with proposing an assessment system that:

- Assesses narrow or reductionistically defined learning outcomes of individual students for purposes of prescriptive teaching
- Compares the performances of one student to those of other students
- Evaluates or compares teachers
- Explicitly compares schools (While school performance data may be used incidentally to compare schools, the express intent of the assessment is to judge schools against a standard based on improvement. The levels of improvement indicative of "excellence" may need to vary from school to school due to differential resources, student characteristics, etc.)

Given the above points, the TFA understands that the assessment data may be used as an indicator of student progress at the school level. Therefore, the suggestions made throughout this report (a) make it possible to determine the degree to which students within a school or district are achieving the designated learning outcomes and (b) make it impossible to use the data to make valid decisions about individual teacher performance. The underlying rationale and implications of such an assessment system will be discussed throughout the remainder of this report as they relate to particular issues.

Measurement-Driven Instruction: The Pros and Cons

The idea behind measurement- or, in this case, assessment-driven instruction is that the assessment system will provide direction for instructional emphases. Proponents of assessment-driven instruction claim that it will significantly focus school goals and improve educational attainment (Popham, 1987). Critics say that it will fragment the curriculum and remove important decision-making power from the classroom teacher (Madaus, 1985). Both advocates and critics of assessment-driven instruction seem to agree that it happens, i.e., that assessment does, indeed, drive instruction. What they disagree about is (a) the appropriateness of the educational goals targeted by most tests that currently drive instruction and (b) the technical adequacy of commonly used tests for assessing meaningful learning outcomes (e.g., outcomes other than factual knowledge such as critical thinking, responsible behavior, attitudes).

Given its charge, the intent of the TFA is that assessment drive instruction in the most positive way imaginable. To us, this means that the assessment system (consisting of tasks/exercises and procedures for administering and interpreting them) must be such that it encourages "educators" to help all students, individually and collectively, to maximize their intellectual, behavioral, attitudinal, emotional, and creative potentials. The word "educator" rather than "teacher" is used to emphasize that persons other than teachers share responsibility for students' education (e.g., counselors, librarians, administrators, parents, and the students themselves).

The assessment tasks should be designed so that (a) teaching "to them" is appropriate and desirable and (b) "teaching them" is unlikely. Teaching "to" an assessment task means teaching toward the objective that is assessed by the task. For example, one might teach so that students meet the objective of developing the ability to integrate and apply knowledge of geography, economics, and mathematics to "real world" problems. On the other hand, teaching students the correct answer to specific questions on a test is called "teaching the test." Teaching the test, unlike teaching to a test, is unethical.

What is Implied by the TFA's Concept of Assessment-Driven Instruction? The intent that assessment drives instruction in a positive way suggests at least three things. One idea it suggests is that the outcomes that drive instruction should be broad and meaningful (e.g., able to make informed purchasing decisions) rather than narrow and isolated (e.g., given two three-digit numbers, the student will be able to accurately compute a sum).

The intent to positively drive instruction also suggests that assessments need to be "authentic," i.e., look as much like desired learning outcomes as possible. For example, if we want students to learn to write, then we should assess actual writing rather than the multiple-choice identification of parts of speech or recognition of correct spellings, punctuation, and grammar. Testing only for such identifications and recognitions can create an unnecessary, debilitating focus for teachers that may take time away from teaching the writing process--a process which certainly includes correct grammar, etc.

Finally, the intent to use assessment to positively drive instruction implies that educators will need resources, support, on-going technical assistance, and preservice and/or inservice training beyond what is now available. For example, teachers will need assistance in developing classroom assessments that can give them ongoing feedback regarding the progress of each student toward ultimate educational outcomes (e.g., independent learner, contributing group member). The assessment system that we are recommending will not provide such information. While this information is absolutely critical for realizing the intent of our charge (i.e., positively driving instruction), it is not necessary for periodically gauging school progress.

Ideally, ongoing classroom assessment should be so useful to teachers and learners in their pursuance of mutually meaningful, socially desirable educational goals that it is an integral part of the teaching-learning cycle: (a) assess for what needs to be taught/learned, (b) build on what the student has learned--to teach what is yet to be learned, (c) reassess for progress and ongoing instructional guidance, (d) etc. Not only would assessment drive instruction, instruction likewise would drive assessment. Whether assessment or instruction came, or should come, first may be debatable; but, it may also be indiscernible.

The desirable chicken-egg situation described above (i.e., assessment-instruction-assessment, etc. vs. instruction-assessment-instruction, etc.) is analogous to the process being used by the Council in the identification of learning outcomes and assessments. Instead of starting with what instruction is now, you have started with what the outcomes of instruction should be (as identified by the various task forces based on survey data tempered by professional judgment). Later in this report, a plan will be proposed for assessing the identified outcomes (some of which remain to be identified). The adopted assessments will certainly drive instruction which, in turn, should be reflected in authentic assessments.

What is Not Implied by the TFA's Concept of Assessment-Driven Instruction?

Driving instruction in a way that dictates how teachers teach or the minutia of what they teach is not our intent! In fact, we envision an assessment system that demands highly professional, skilled, creative, flexible, empowered teaching.

Creating such a system is both necessary and complex. To illustrate, consider that a desired outcome of elementary education is that students develop a "love of learning." Certainly this outcome is not "minutia," and there is no one best way to teach it. Validly assessing the outcome requires that (a) educators at elementary grade levels can, with a significant degree of consensus, precisely explain the meaning of "love of learning" to assessment experts; and (b) assessment experts can identify or develop authentic assessments that can serve as indicators of the extent to which elementary schools are fostering that "love." Given that there may be numerous acceptable ways to encourage a love of learning, it is the TFA's intent that the determination of what ways to use with particular children under particular circumstances remains a matter of professional judgment of the teachers.

Recommendations for Meeting Kentucky's Current School Performance Assessment Needs: Advantages, Disadvantages, and Implications of Various Approaches

In the following subsection, we present concepts and terms important to understanding the assessment approaches described in the remainder of this section.

Key Concepts and Terms

Standardization. Many assessments are based on the use of "standardized" procedures, meaning that administration and scoring practices are designed to be uniform or the same across all persons taking the assessment. Such standardization makes it possible to establish reliable norms or group averages and to compare individual or group scores to that norm.

Norm-Referenced vs. Criterion-Referenced. Test scores gain meaning by comparing them to a reference point. Two common reference points are (a) "norms" or group averages and (b) "criteria" other than norms such as a mastery level. For example, 75% correct might be established by a particular school district as the point representing mastery for a particular skill; students obtaining 75% or higher on the assessment of that skill are said to have met the "criterion" for mastery. Both norm-referenced and criterion-referenced assessments may be standardized.

Formative, Diagnostic Assessments vs. Summative, Accountability Assessments. To be valid, assessment systems must be specifically designed for particular purposes. Valid assessment designs must consider (a) who is supposed to receive the assessment data, (b) the decisions the data recipients intend to make, and (c) the kinds of information (i.e., data) needed by the recipients in order to make informed, defensible decisions.

If the intended purpose of an assessment is to diagnose the strengths and weaknesses of individual students so that instruction may be adapted accordingly, then (a) the primary data recipients should be educators, students, and parents and (b) the data should be collected and presented formatively, i.e., in an ongoing fashion that facilitates appropriate instructional changes as needed rather than at pre-designated benchmark points (e.g., grades 3, 5, 8, 12). Criterion-referenced assessments are more useful than norm-referenced assessments for meeting formative, diagnostic evaluation purposes.

If the intended purpose of an assessment is to hold someone (e.g., group of educators) or something (e.g., an instructional program) accountable for particular outcomes, then (a) the primary data recipients should be those who are charged with making the accountability decisions (e.g., boards) and (b) the data should be collected and presented summatively, i.e., in ways that provide an index which represents the extent to which certain outcomes have been achieved. Currently, norm-referenced assessments are most often used for meeting summative, accountability evaluation purposes.

Approaches and Recommendations

The Formative/Diagnostic Approach. As described in the "Key Concepts and Terms" subsection above, one assessment approach is to systematically assess individual student progress for diagnostic purposes. The main advantage of this approach is that students, parents, and educators may be provided with ongoing, diagnostic information that may continuously inform and guide teaching and learning activities.

The disadvantages of this approach, for Kentucky's state-wide assessment purposes, far outweigh its advantages for numerous reasons. First, our charge is to assess the "whole" of education (i.e., integrated knowledge, basic and higher order skills, attitudes, behaviors)--something so huge that assessing it in diagnostically useful ways would take an inordinate amount of time away from instruction and its development would cost a fortune in time, expertise, and money.

Second, the degree of standardization required by the state-wide assessment with which we are charged would certainly compromise the diagnostic value of the assessments for individual teachers and students. Mandating and standardizing the kind of ongoing classroom assessment required for diagnostic purposes in all of the outcome areas of concern would doom the system to failure from the start.

Third, our purpose does not include the diagnosis of individual students' strengths and weaknesses for purposes of classroom-level decisionmaking or individualizing instruction. Our charge is to monitor the progress of schools--progress which includes student performance in designated outcome areas.

The disadvantages described above are not meant to imply that diagnostic assessment is unimportant. In fact, it can be a very useful instructional tool. However, much of its usefulness is that it can be adapted to meet the needs of individual teachers and students--a use that may be violated by the standardization called for by our purpose.

Recall that an implication of our purpose is that teachers will require assistance in the development and use of diagnostic tools that can help move their students in the direction of accomplishing the identified outcomes. To hold schools accountable without attending to their needs for assistance is analogous to holding students accountable without providing for instruction. Simply put, it is unethical and immoral.

Further, it is important to understand that the kind of assessment-driven instruction that we are talking about in this report is a relatively new concept. Teachers, legislators, and reporters (among others) have not been prepared for it. This does not mean that teachers are poorly trained or incompetent; it means that they will be asked to re-conceptualize assessment and its implications for what they do and how they do it. This re-conceptualization will require time, resources, and a disposition to be involved with a variety of education professionals in the development of authentic assessments that can have positive instructional impact.

The Summative/Accountability Approach. As described in the "Key Concepts and Terms" subsection above, a second assessment approach is to use a summarizing index of performance to hold persons or things (e.g., schools) accountable for particular outcomes. Assessment for accountability purposes requires standardized procedures. Hence, an advantage of accountability assessment is that it may accommodate a variety of norm- and/or criterion-referenced decisions that are not feasible using formative/diagnostic procedures. Additionally, summative data may be easily, and sometimes inappropriately, aggregated for decisionmaking at various levels (individual student, classroom, school, district, state).

A major disadvantage of large-scale summative, accountability assessments is that they must be efficient; and this efficiency requirement encourages the use of "tests" that are relatively simple to administer and score. At present, such tests seldom provide authentic assessments of outcomes other than factual knowledge or a limited range of basic skills. Many "efficient" tests are subject to "cheating" by educators and students (e.g., tests of factual knowledge) or "faking" (e.g., pencil-and-paper tests of self-esteem). Hence, they may not drive instruction in desirable directions.

Another disadvantage of large-scale summative assessment systems as we now know them is that while they may yield seemingly simple numerical scores for each student, those scores may be (and often are) inappropriately aggregated, generally misunderstood, and misused. Using "efficient" tests to assess the outcomes of concern to Kentucky (e.g., basic and higher order skills, integrated knowledge, "real world" problem solving, attitudes) undoubtedly will compound problems of misuse, misunderstanding, and misrepresentation associated with summative assessments for state-wide, school-by-school accountability purposes.

In stating the above disadvantages, we are not suggesting that standardized, pencil-and-paper tests not be used under any circumstances. In fact, when used for the purposes for which they were constructed, standardized tests are some of the most technically sound, defensible measures available. So, for example, it would be appropriate to use a standardized achievement test to indicate a student's general level of factual knowledge in a particular content area; such tests are designed for that purpose. However, it would be inappropriate to use the scores to evaluate a particular curriculum or program of classroom instruction unless the test is specifically designed to do so. In summary, when a technically sound, pencil-and-paper test is a good match for the purpose at hand, then its efficiency is a plus, and it may be appropriately used.

The Recommended Approach. In order to meet its charge, the Council needs to propose an accountability assessment system that positively drives instruction. The Task Force on Assessment (TFA) recommends that this system, insofar as possible, should (a) avoid the disadvantages of the approaches described above, (b) combine the potential for authentic assessment offered by formative/diagnostic approaches with the efficiency advantages offered by summative/accountability approaches, and (c) foster and support the development of formative/diagnostic procedures that necessarily contribute to students' development of the outcomes that will be assessed by the accountability system.

To address the dual needs of authenticity in assessment and efficiency in large-scale accountability, the TFA is recommending a Sampling Approach to assessment. Two kinds of sampling are involved in the recommended approach: sampling of students and sampling of assessment tasks. The concept of sampling students is similar to procedures used by both Neilson in establishing television viewing rates and the Gallup polls. As these procedures suggest, it is not necessary to ask the entire population of viewers or voters the same questions in order to get an accurate accounting of results.

Sampling students, like sampling from the population-at-large, requires the selection of an adequate number of persons--in this case, students--who, together, accurately reflect the characteristics of their group (e.g., grade level, ability level, school). Only the sampled or selected students then participate in the assessment. Of course, it is critical that experts in the area of population sampling be consulted when developing the sampling plan so that the sample is truly representative of the group under consideration.

Similarly, the sampling of assessment tasks involves selecting tasks for any particular assessment (e.g., assessment of problem solving at the end of eighth grade) from a pool of exercises, tasks, or procedures that are capable of assessing the outcome of concern. Sampling of students and sampling of assessment tasks can occur together or separately. In other words, it is possible to have (a) a sample of students respond to all assessment tasks, (b) all students respond to a sample of assessment tasks, or (c) one sample of students respond to one sample or set of assessment tasks and another sample of students respond to another sample of assessment tasks, etc.

As stated above, the TFA is recommending that both students and assessment tasks be sampled. The advantages of this dual sampling approach are listed below:

o Advantage #1: We could get a reliable indication of educational progress in a variety of outcome areas without spending an inordinate amount of instructional time for assessment that may not be directly useful to the day-to-day instruction of students.

Remember that our purpose dictates assessing an enormous variety of complex outcomes that are not easily measured (e.g., independent and cooperative problem-solving in various content areas, life-long learning, self-concept, productive member of society, resourcefulness, adaptability, responsibility, attitudes, values, basic skills). Numerous assessment tasks, exercises, or activities may be associated with each outcome because an outcome may have several indicators. For example, indicators of responsibility might include turning in assignments on time or regular attendance.

Our purpose does not dictate that every outcome be assessed at the same time. If we conceptualize all the possible assessment tasks associated with all of the identified outcome areas as constituting a set, then we could sample a reasonable number of assessments from the set rather than assessing the entire set each time.

- o Advantage #2: Viewing the assessment tasks as elements in a set implies that not all tasks need to be ready for use at the same time. Therefore, time for developing authentic assessments can be built into the system. The first few years of assessment could be fairly limited in scope and expand as the bank of assessment tasks develops.

The idea of sampling assessment tasks from a set is not new or radical. When test publishers construct a test, they develop hundreds or thousands of items, pilot test them for student reactions and technical soundness, and then select a reasonable number of items from the pool of items proved adequate by the pilot test. Similarly, when teachers test their students, they do not test every piece of information, skill, or concept that has been presented. Whether they realize it or not, their test items are merely a sample of every possible item that could be selected or developed for assessing what students have learned.

- o Advantage #3: Not all students need to be assessed at the same time or on the same tasks to accurately determine a school's progress on the identified outcomes.

Sampling, then, would cut down on the burden of assessment to any one student or assessor. A representative sample of students from each school can be assessed with regard to one set of outcomes, another sample of representative students can be assessed on a second set of outcomes, and so on.

There are a number of acceptable sampling procedures for obtaining an accurate picture of a school's performance. The fairly sophisticated, complex sampling procedure used by the National Assessment of Educational Progress (NAEP) might be modified and adapted. Although NAEP data are currently collected and reported such that they cannot be disaggregated, a number of states have developed or are developing NAEP-like matrix sampling procedures that can disaggregate state-wide data at school and district levels. For example, California and Illinois have successfully used matrix-sampling procedures that allow for reporting assessment data in ways that are useful to a variety of audiences such as teachers, school boards, and state testing offices (Bock & Mislevy, 1988).

Using a student sampling procedure may present problems for small schools since a higher proportion of students are required to produce an adequate-sized sample for making statistical inferences. There are several ways to handle the problem: (a) conduct two assessments, (b) report the results as they are in light of the conditions under which they were obtained, (c) abstain from reporting the results, (d) use a bayesian statistical procedure to estimate what the results would be if the sample were adequate, (e) use a rolling average to compensate for cohorts having small numbers, or (f) have students take multiple assessments.

o Advantage #4: Sampling has great potential for driving instruction in positive ways.

When students and assessment tasks are sampled, then educators are encouraged/pressured to move every student toward the attainment of all identified outcomes. The level of expected attainment may vary according to factors such as ability or prior experience.

Every student must be moved because the students to be sampled for assessment at any given point are unknown (except by the technical experts responsible for the sampling scheme). Likewise, every outcome area must be worked toward because the outcomes (i.e., the tasks) selected for assessing any particular group of students at any particular point in time also are an unknown. Additionally, sampling can enhance the validity of the assessment in that it encourages educators to appropriately "teach to" the assessment objective (e.g., independent learner) without teaching the particulars of the assessment task itself.

A reasonable way to go about developing a sampling approach to assessment might be to decide on a core of outcome areas (e.g., basic skills and problem solving) that would be included in each assessment with other outcome areas to be assessed on a rotating basis. A sample plan is described in the fifth major section of this report.

- Advantage #5: If students are sampled and the samplings are separated by several years (e.g., grades 3, 5, 8, 12), then all educators are accountable because results cannot be attributed to any particular teacher and the burden of assessment is reduced for individual students. However, a warning is also in order, here: undue emphasis at the assessed grade levels must be avoided because such emphasis will place extraordinary and unjustifiable burdens on curriculum, instruction, and learning at those grade levels.

Of course, the recommended sampling approach has various limitations and serious implications for educational development efforts in Kentucky. Developing and implementing the proposed assessment plan will not be simple and will require commitments of time, resources, and expertise. Time must be allowed for the development and pilot testing of assessments. While some aspects of development and implementation can be piloted almost immediately, implementation of a full-blown assessment system will take years.

Sampling will help defray the costliness of the proposed program, but it will still be relatively expensive. To develop, pilot, and implement the recommended assessments will require time, expertise, and personnel--all of which cost money. Ultimately, satellite communication and other technologies may help reduce the cost of administering some assessments.

Once aspects of the proposed assessment program are in place, it will be important to evaluate the extent to which they are accomplishing their purpose. This ongoing assessment program evaluation will help ensure that the dynamic nature of the system is maintained and that it does not become another in the long line of fads in education (see Slavin, 1989).

Various issues also remain to be addressed. They include:

- How should the outcome areas be prioritized for purposes of (a) identifying and developing assessment exercises and (b) combining assessment task results for making summative decisions?
- Which students should be included/excluded from the sampling pool?
- What accommodations or adjustments should be made in the assessment tasks, presentation of the tasks, scoring, etc., for individual differences (e.g., students having limited English Proficiency)?
- What constitutes expected progress?

The issues listed above are considered in the final section of this report.

The State of the Assessment Art

In this section, we will describe available assessment techniques, consider the relationship between what is available and what is needed to accomplish our purpose, and suggest techniques that might be used in the assessment of particular outcomes. This latter task is particularly difficult at this time because we are working with rather broad outcome areas (e.g., basic skills and knowledge, resourceful problem-solving, social responsibility) rather than the observable outcomes associated with those areas or the measurable indicators of those outcomes.

To illustrate the above point, consider that "problem solving" is an outcome area. An observable outcome of problem solving is that students can evaluate and anticipate the results of choosing a particular problem resolution. A measurable indicator of this outcome might be based on several observations of a student's response to a simulated problem solution. That reaction could be videotaped to ensure that several observers are in agreement concerning the student's performance, or several observers could watch the student's performance via satellite communication. The assessment task or exercise/activity is the student's interaction with the simulation.

At this point, the outcomes task forces have specified relevant instructional outcome areas based on survey data and professional judgment; the development of outcomes is ongoing. Given the available time, resources, and information, it is within the TFA's capability to suggest or recommend direction for the selection or development of indicators or specific assessment tasks. It is not within our capability to actually develop outcome indicators and specific assessment tasks.

A plan for incorporating various assessment activities (to be identified and developed over time) into an assessment system is outlined in Section Five of this report. The plan falls short of specifying expected outcome levels, criteria for meeting expectation, or setting standards. While we provide guidance in these areas, said specifications are not ours to make; they are policy decisions that rest with the Council.

What Assessment Procedures are Currently Available?

Assessment tasks can be categorized into three major categories: standardized tests of achievement or aptitude, self-reports of behaviors and attitudes, and performance tasks for assessing a variety of processes such as group participation. Most standardized tests of achievement and aptitude use a pencil-and-paper format. The question formats (e.g., multiple-choice, true-false, matching, fill-in-the-blank) usually allow for only one right answer. Therefore, the focus of the questions is often on facts, although objective test questions can be developed to assess aspects of problem solving. In fact, California is in the process of developing "power items" that can assess broad outcomes in content areas.

Standardized aptitude tests (e.g., the Scholastic Aptitude Test or SAT) are best used to predict which students will succeed in specific situations (e.g., college). Standardized achievement tests (e.g., Comprehensive Test of Basic Skills or CTBS) are most appropriately used to obtain a reliable measure of a student's general level of factual knowledge for purposes of comparing it to the average performance of the group on which the test was "normed." Such tests are technically sound and efficient to administer and score.

Standardized achievement tests provide "general" measures because, unless they are specifically tailored to do so, they do not assess the degree to which a student has mastered the curriculum of his/her school. Rather, they consist of a sample of items drawn from a universe or set of items designed to reflect a number of curricula--usually nation-wide. Students' standardized achievement scores may not validly reflect their classroom performance or be particularly helpful to teachers in making day-to-day instructional decisions.

Achievement tests can be developed in a "tailored" fashion so that they do reflect a particular curriculum and students' mastery of it. If desirable, such tests can be normed, or psychometrically equated to a normed test, so that individual performances may be compared. The Kentucky Essential Skills Test (KEST) is an example of a tailored achievement test that allowed for norm-referenced comparisons on the basis of its link with the CTBS.

Self-report measures usually consist of questionnaires or interviews in which the student is asked to respond to a series of questions. The students' responses are then used to draw conclusions about the attitude or behavior being assessed by the measure (e.g., self-concept, attitude toward learning, locus of control, job aptitude, preference, or satisfaction).

A wide variety of standardized self-report measures are commercially available (e.g., see The Mental Measurements Yearbook, Test Critiques, Tests in Print). They are most appropriately used to inform "counseling" where the goal is to generally help students; students participating in such assessments are not risking failure or the loss of something (e.g., admission to a program or school). For example, an inventory like the

Kuder Preference Test might be used to identify a student's interests as they relate to selecting classes for job preparation.

Most commercially available self-report measures were developed for clinical or research purposes and they may not serve the specific needs of a school accountability system. A caution concerning the selection of many instruments in this category is that their titles may be misleading. For example, a self-concept inventory may not assume the same definition of self-concept that we want to assess. Therefore, in selecting an instrument, it is important to examine evidence of its construct validity (i.e., the extent to which it truly measures what it purports to measure). Evaluating the validity of an instrument requires that test users be clear in the definition of what they want to assess.

Given that off-the-shelf measures may not be a good match for a specific user's purpose, it is possible to adapt existing instruments or develop new ones. In doing so, the psychometric properties (i.e., reliability, validity) of the adapted or newly developed instruments must be demonstrated.

A disadvantage of self-report assessments is that questions may be answered in socially desirable ways that do not truly reflect the student's attitudes, beliefs, etc. As with any assessment, the likelihood of "cheating" or "fake" responses increases as the stakes in the results of the assessment increase.

Performance measures tend to be the most authentic assessments because they involve (a) observing students while they are engaged in the processes being assessed (e.g., group cooperation) or (b) evaluating the product of process engagement (e.g., an essay results from the process of writing). The observations associated with performance may be cued or naturalistic. That is, students can be given a standardized situation and observed for their reaction to it, or an observer may simply observe how a student acts without being cued.

Naturalistic observation is appropriate when the goal is to determine what behavior is typical for a given student, i.e., what a student will do. Cued observation is appropriate when the goal is to determine what a student can do. So, for example, if we wanted to assess the disposition to cooperate, we would use naturalistic observation; whereas, if we wanted to assess whether or not a student knew how to productively participate in a group, we would cue an observation using a simulation exercise or structured group activity.

While performance assessment has a long history (e.g., it has been used for centuries to evaluate apprentices), standardized applications of such assessments, particularly in the field of education, are relatively new. While we can borrow from and adapt the seminal work of others, we will have to develop most of our own performance assessment tasks. Fortunately, there are a number of places we can look for guidance. The most developed form of performance assessment is probably writing assessment. For example, NAEP, the National Writing Project, the American College Test (ACT), the Educational Testing Service (ETS), and a number of states (e.g., Connecticut) have invested heavily in the development of unbiased writing prompts and scoring rubrics.

We also can adapt exercises developed for use in business and industry. Personnel assessment centers typically put applicants through a series of simulation activities such as "in-basket" exercises that are designed to mimic real-life, on-the-job situations. Applicants are assessed on their ability to perform in the situation according to standardized criteria representing expected performance. An advantage of simulations is that they can be used to assess interactions among knowledge, skill, and the disposition to perform in a particular way in a particular situation.

Robert Slavin at Johns Hopkins University has developed a series of cooperative learning tasks for assessing the degree to which students are productive participants in learning tasks requiring cooperation. While his tasks may not meet our specific needs, they might be used as templates to guide the development of more appropriate tasks.

Senta Raizen at the National Center for Improving Science Education is conducting research and development in the area of performance assessment in science. She is particularly interested in assessing actual performance and reasoning skills. Last year her focus was on the elementary level, this year she is working on middle school assessment activities, and next year she will focus on the high school level. While her work primarily targets "informal" assessment needs at the classroom level, her ideas regarding authentic assessment have implications for any exercises we might adapt or develop.

An up-and-coming performance assessment technique is the portfolio. A portfolio most often contains work samples. Currently, portfolio assessment is most widely and systematically used in the area of writing. Students' writing progress may be tracked by assessing their revisions of a piece of work over time and/or the quality of a number of different pieces of work over time. One value of the portfolio assessment of writing is that it allows for evaluation of writing as it is taught. Most other writing assessments occur in an artificial testing situation wherein a student is given a limited amount of writing time and does not engage in the revision process. A number of scoring rubrics that may be applied to writing samples are available (e.g., holistic scoring, the writing assessment of the International Educational Assessment or IEA). An important caution concerning the use of portfolio assessments in high stakes situations (e.g., as a basis for rewards or incentives) is the need to verify who actually did the work contained in the portfolios.

The Relationship Between What's Needed and What's Available

A difficulty in writing this subsection has been deciding what outcomes to include/exclude. To consider every outcome identified to date by the other task forces would be redundant, futile, and contrary to the Council's best interest. It would be redundant because many of the outcomes coming from the same category of outcomes can be assessed using similar varieties of techniques. It would be futile because (a) the targeted outcomes may change; (b) outcome definitions (which must drive development of the assessment tasks) are still being formulated; (c) the operational definition of outcomes and the development of assessment tasks are interdependent activities that can be expedited by work groups which include child development, curriculum, and assessment expertise; and (d) as illustrated by the plan outlined in Section Five, not all targeted outcomes will be assessed at least not at once or in the foreseeable future.

At this time, the TFA can best serve the Council and those who will be charged with following up on the Council's recommendations by providing a "road map" (i.e., an assessment plan) rather than a "AAA"-generated trip routing (i.e., a specific list of assessment tasks). An appropriate, specific route to assessing the desired learning outcomes--some of which rightfully remain to be specified--is premature because we will be traveling over unchartered terrain that is guaranteed to be rough. Therefore, the

TFA has chosen to provide the Council with a plan rather than a list of specific assessment tasks. That plan is presented in Section Five. The following table is a precursor to the plan in that it attempts to attach potential assessment techniques with heretofore identified outcomes.

The table does not pretend to be exhaustive. The listed assessments represent the realm of availability, not desirability. We have assumed the stance that measures can be identified or developed for all adequately defined outcomes. Whether or not all identified outcomes should be measured or the degree to which the measure should be authentic is another issue. Our advice is to strive for a balance between efficiency and authenticity in measurement.

Although it might be desirable to assess some outcomes sometime after high school graduation, doing so is not feasible for immediate accountability purposes. Therefore, some valid, authentic measures that may not be available by grade 12 are not included in the table. For example, average annual income for the five-year period occurring ten years after graduation may be a desirable measure of "success," but such data are not available within the context of the school and are not feasible for recognizing schools that are effective in the short run. In developing measures of success, we would need to ask, "What are indicators of success that occur within the context of the school that we are willing to assume transfer to life after school?"

Table: Assessment Techniques

Integrating Outcomes and Outcome Areas	Potential Assessment Techniques	Comments
Basic Skills	Off-the-shelf standardized achievement tests	Appropriate only if the skills assessed by the test and the task forces' definitions of basic skills are a suitable match (conceptually and technically)
	Develop a test that matches the task forces' definitions of basic skills	Probably a re-invention of one or more wheels
	Supplement an off-the-shelf achievement test with other instruments so that together they assess basic skills as defined by the task forces	Technically, scores can be easily combined. The weight carried by each measure is a policy decision that should be informed by professional judgment.
Knowledge of Content	Same as above (basic skills)	Same as above (basic skills)
Problem Solving	Off-the-shelf tests of various components of problem-solving or related constructs (e.g., critical thinking, analytic)	While these tests may cover intellectual problem solving, they seldom take behavioral skills into account. These tests are rarely tied to content or to real-world situations. It is unlikely that they will match the task forces' definitions of problem solving.
	Develop items that assess the kinds of content-related problem solving or components of real-life problem solving delineated by the task forces. Some items may be open- or closed-ended pencil-and-paper	

	questions. This is more likely to occur in the content areas than otherwise. Overall, the seeming emphases of the task forces (e.g., plan and implement problem solutions) require more authentic assessments.	
	Adapt or develop cued simulations	Can assess what students can do, not what they're disposed to do
	Naturalistic Observations	Inefficient; need to "capture" students in naturally occurring problem situations which may be scarce and which will not be comparable across students
	Adapt or develop structured interviews with follow-up probing questions	Can assess what students say they would do, not what they do
	Some combination of the above	The most desirable option (Multiple measures are always preferable)
Contributing group member	Adapt or develop cooperative learning tasks	
	Adapt or develop simulations	
	Naturalistic observation	
	Anecdotal records	All cautions that apply to self-report measures apply here.
Self-concept	Off-the-shelf measures	Cautions that apply to other off-the-shelf measures apply here.
	Adapt or develop self-report measures that reflect the task forces' definitions	See other self-report measures

	of self-concept or components thereof (several different measures may be required to assess the various components of the outcome definition)	
	Anecdotal records	See above
	Naturalistic observation	Criteria for behaviors indicative of aspects of self-esteem would have to be established and reliably observable
Resourcefulness	A combination of a variety of measures, each of which is an indicator of resourcefulness. For example, one identified outcome associated with resourcefulness is "a disposition of perseverance in problem solving" which might be assessed as follows:	
	Naturalistic observation	The observation is naturalistic because disposition is an issue; however, for efficiency's sake, the problem situation can be structured. More than one observation is required to ensure that the first observation is not a fluke.
Adaptability	A combination of a variety of measures, each of which is an indicator of an aspect or component of adaptability. For example, one identified outcome associated with adaptability is "adapt or adjust to unfamiliar circumstances" which might be assessed as follows:	

	Simulation activity	See above simulation activities
	Naturalistic observation	See above naturalistic observations
	Anecdotal records	See above anecdotal records
	Self-report (e.g., clinical interview)	See above self-reports
Civic Responsibility	A combination of a variety of measures, each of which is an indicator of a component of an identified outcome associated with civic responsibility. A possible outcome might be a "helpful attitude" toward community needs (e.g., involvement in a litter clean-up campaign, volunteering in a rest home, refraining from substance abuse)	
	Off-the-shelf attitude measure	Same as above off-the-shelf measures
	Adapt an off-the-shelf measure	Same as above
	Self-report measures	Same as above self-reports
	Naturalistic Observations (e.g., of participation in community-related activities)	See above naturalistic observations
	Anecdotal records	Same as above anecdotes
Job Skills	Simulations	As above simulations, but specific to the job of concern
	Cued observations	As above cued observations, but specific to the job of concern

	Naturalistic observations	As above naturalistic observations, but specific to the job of concern
Positive Attitudes	Specific attitudes and their associated outcomes will require different assessment tasks; but the assessment procedures may be selected from the following:	
	For some attitudes, e.g., self-esteem, off-the-shelf measures are available; they are not available for others, e.g., "likes school" or "enjoys learning."	Same as above off-the-shelf
	Adapt or develop self-report measures (inventories, interviews)	Same as above self-reports
	Adapt or develop simulations that prompt behaviors indicative of the attitude being assessed	Same as above simulations
	Naturalistic observation for behaviors agreed upon as indicators of the attitude being assessed	Same as above naturalistic observation
	Anecdotal records/reports	Same as above anecdotal reports
Values	A combination of a variety of measures, each of which represents an indicator of an identified outcome in the values category of outcomes. An example is "non-violent conflict resolution." In this example, great care needs to be taken to ensure that any authentic assessment tasks are not unethical.	

	Naturalistic observation	Same as above naturalistic observation
	Adapt or develop standardized conflict laden scenarios that may be presented orally, in writing, or via media to which students may respond orally, in writing, or technologically.	
	Anecdotal records/reports	Same as above anecdotal records
	Self-reports	Same as above self-reports
Integrated Knowledge	Adapt or develop writing exercises that provide standardized opportunities to display specific combinations of integrated knowledge acquisition and use	A number of researchers (e.g., at the National Center for the Study of Writing and the Center for Research on Evaluation, Standards, and Student Testing) and Test Development Efforts (e.g., NAEP, ETS, ACT, National Writing Project) are working in the area of writing as an assessment vehicle. However, their efforts may not be specific to Kentucky's evolving assessment needs.
	Adapt or develop work samples that represent students' responses to standardized opportunities to demonstrated the acquisition and use of integrated knowledge	The Reading Assessments used in Illinois, Senta Raizen's work at the National Science Center, and the National Math Center show promise for assessing integrated knowledge within particular content areas.
	Projects that provide standardized opportunities for students to demonstrate integrated knowledge acquisition and use	Tom Romberg at the National Math Center has ideas about project-based assessments that may generalize to other areas

	Portfolios	Standardized portfolio assessments of students' work is a relatively new concept. Those doing work in the area include the state of Vermont and Howard Gardner at Harvard University.
	Adapt or develop simulation exercises	
	Observations (naturalistic or cued)	Cued observations have the advantage of being more efficient and standardized.
Educational Competitiveness	This outcome category could apply to any of the other outcome categories (e.g., basic knowledge and skills, personal attributes, social responsibility, resourceful problem solving, integrated knowledge). Specifying outcome measures requires identifying the outcomes of concern. NOTE: an SAT score is not an outcome! It is one index that often serves as a proxy for an outcome (e.g., college success). The critical question is: How does Kentucky want to compete --in terms of outcomes or in terms of proxy measures? Outcomes are the concern of this report.	

A Grand Plan

In this section we look into the future by presenting a vision of what an assessment system designed to positively drive instruction in Kentucky might look like ten or so years from now. Then we fill in the details, including a long-range plan for approaching the accomplishment of the big picture.

A Futuristic Big Picture

Looking several years into the future, a dozen outcome areas will have been identified. They include content knowledge; skills (e.g., basic, job, independent and group problem solving); attitudes, dispositions and problem solving (independent and cooperative); positive attitudes and behaviors (self-concept, contributing/productive group/societal participant, responsible, adaptable, resourceful); and values (work, learning, health).

A matrix or some other representational structure or model that makes sense will have been developed. In fact, a two-dimensional matrix will probably be inadequate for representing Kentucky's assessment system of the future because many of the outcomes that we wish to assess are not related in linear, sequential ways (see Romberg, Zarinnia, & Collis, 1989) and/or are synergistic.

In our system of the future, assessment tasks will be sampled from the representational structure at specified points in time according to a technically sound scheme. This structure or blueprint may contain cells that represent every possible category of outcomes and their intersections. For example, there would be a cell for independent problem solving in the content area of social studies, a cell for cooperative problem solving in the content area of science, resourcefulness in a group problem-solving situation, etc. Most cells will contain a number of identified outcomes. For example, an outcome in the cell for problem solving with mathematics might be the ability to gather information to make price comparisons and select a cost-effective purchase.

Outcome measures will have been identified or developed for high priority outcomes wherever feasible. Priorities will have been established on the basis of the intersection or balance between the importance of an outcome in the overall makeup of a graduate and the degree to which the school shares in the responsibility for that outcome. Priorities will be represented by the weighing system used to combine the results of outcome measurements or assessments for decision-making purposes.

The measures will have been pilot tested and modified accordingly. Most will have been implemented on a limited scale; successful implementations will have been expanded to accommodate a statewide student sampling procedure. Appropriate scaling/scoring procedures will have been developed for the assessment tasks so that they are interpretable in meaningful ways and may be combined when doing so adds meaning or usefulness to the results. For example, scores across tasks that represent components of problem solving might be aggregated; or if basic skills are defined to include the kinds of items on more than one instrument, the results might be combined across instruments.

Technically sound schemes will have been developed and implemented for sampling assessment tasks from the blueprint or other representational structure and for sampling students from the population. The scheme will allow us to know, in a systematic way, the percent of students within each school that is working up to expectation in each outcome area.

The expectation may be a criterion based on what a majority of students should know and be able to do in each outcome area. However, it is more likely that every student, including those who start out at or above the criterion, would be moved toward his/her potential if the expectation is based on (a) an estimate of each student's capability or (b) improvement in each student's performance over time. Both of these techniques address the dilemma of which students should be included/excluded in the sampling procedure (e.g., learning disabled, gifted)--i.e., no type of student needs to be systematically excluded from the sampling pool because the effects of individual differences (e.g., ability) have been taken into account. Of course, extenuating circumstances may occasionally warrant the exclusion of an individual student from a particular sample.

Basing the expectation standard on improvement may seem to imply that the same students will need to be assessed on the same outcomes at each assessment point (i.e., grades 3, 5, 8, 12). Some advantages of this longitudinal approach to assessment are that it takes much of the "guesswork" out of controlling for bias and allows us to follow cohorts of students over time. Following students over time can be particularly useful in understanding unexpected assessment results because the effects attributable to different groups of students can be ruled out.

Drawbacks to using the longitudinal approach, used in conjunction with a sampling approach, include the following:

o Students may drop out of the sample making it difficult to maintain a representative sample in some schools.

- It may limit the total number of students who are actually assessed throughout the course of schooling and place a heavy assessment burden on those students who are selected for assessment.

- Assessment tasks used across time with any particular cohort of students would need to cover the same set of outcomes at each assessment point using equivalent but not identical assessment exercises. Equating assessment tasks is complex, costly, and time consuming.

- Once the identity of the selected students is known, as it will be with their first assessment (in grade 3), the validity of the entire assessment system may be violated. That is, the selected students may receive differential classroom treatment because the burden of demonstrating school performance rests with them.

While longitudinal assessment is necessary to gauge the improvement of individuals over time and can help us understand the reasons behind certain outcomes, it is not necessary for comparing groups of students over time. For example, the performance of a representative sample of students in grade 4 can be compared to a similar but different sample of students at a later time provided that the assessment tasks used at each assessment point are equivalent but not identical.

A compromise that would maximize the advantages of the longitudinal approach while avoiding many of its drawbacks would be to have a longitudinal cohort embedded in a larger sample of students--a sample that would change from assessment to assessment. The longitudinal cohort would be indistinguishable to everyone except the researchers and technicians responsible for developing and executing the sampling plan.

Finally, the future shows a master plan for implementing, maintaining, and continually developing the system. The master plan tells us who to assess, when to assess, and on what outcomes. The development of assessment tasks will be necessarily ongoing. Implementation procedures will become increasingly sophisticated. For instance, some of our observations may be by satellite communication, computer networks, or other sophisticated technologies. Educators will have the skills, support, resources, and motivation necessary for successful implementations of the plan--and more importantly--for achieving the purpose of the plan.

A Detailed Long-Range Plan Example

Year 1 (1989-90). The following lists are not necessarily ordered. Some activities may occur simultaneously or in another order.

- Identify outcome areas for assessment. Determine major outcomes associated with each area at designated grade levels, e.g., 3, 5, 8, and 12.
- Develop an appropriate blueprint or representational structure from which outcomes for assessment may be sampled.
- Decide which outcomes to assess first. A reasonable choice might be to start with a combination of basic skills and problem solving in two content areas such as mathematics and social studies since (a) knowledge, skills, and problem solving are highly related and interdependent; (b) independent and group problem solving are obviously priorities that are not now assessed; (c) existing or adapted off-the-shelf measures could certainly be used to assess some of these outcomes; and (d) development activities could begin immediately in core areas that have potential for significant educational impact.
- Decide on basic skills measures in high priority areas such as reading, mathematics, and communication (writing and speaking) that validly assess the outcomes identified by the task forces in these areas and that are appropriate for use at grades 3, 5, 8, and 12.
- Identify teams of child development curriculum, teaching, learning, and assessment experts that can work together to identify and develop assessment tasks.

Year 2

- Consult with sampling experts to develop a technically sound scheme for sampling students and assessment tasks in ways that allow for (a) adequate student representation at the school level, (b) valid comparisons of performances across the grade levels assessed, and (c) the possible inclusion of a longitudinal cohort.

- Draft a plan for orienting practitioners to the new assessment system.

- Draft a plan for providing or developing assessment-related support systems for practitioners so that they may adequately prepare students for the benchmark assessments in grades 3, 5, 8, and 12.

- Insofar as feasible, implement assessments in the knowledge and skill areas identified in Year 1.

- Develop and apply scaling and scoring procedures applicable to the data yielded by the Year 2 implementation.

- Begin developing measures of basic skill areas identified during Year 1 that are not easily assessed using commercially available instruments (e.g., oral communication).

- Begin identifying and developing assessment tasks using the development teams assembled in Year 1. FROM THE OUTSET, ATTENTION SHOULD BE GIVEN TO HOW COMPARISONS WILL EVENTUALLY BE MADE BETWEEN SAMPLES AND GRADE LEVELS (e.g., task equating). Task development might begin in the areas listed below. Aim for six usable assessment tasks per area.

  Grade 3 -- independent problem solving in math

  cooperative problem solving in math

  independent problem solving in social studies

  cooperative problem solving in social studies

  Grade 5 -- same

  Grade 8 -- same

  Grade 12 -- same

- Train reliable assessors.

- Develop support mechanisms for teachers

- Work with teacher trainers in preparing preservice teachers for Kentucky's new assessment system.

Year 3

- Evaluate and revise the Year 2 implementation process and procedures as necessary.

- Continue the assessment task development activities started in Year 2. Field test the new tasks as they are developed before formal pilot testing. Realize that piloted tasks are no longer secure. Therefore, a sample pool large enough for random selection of tasks is important.

- Implement an assessment on a limited scale. Build it to be successful. This first assessment could consist of measures of (a) basic skills at all four grade levels and (b) independent and cooperative problem solving in two subject matter areas (e.g., math and social studies) at two grade levels. It makes sense to start with lower grades that are adjacent (e.g., 3 & 5 or 5 & 8) so that cohorts can be followed up to graduation and so that grade-to-grade comparisons can be made within the fewest number of years possible. The problem-solving assessment could consist of sampling three of the total number of assessment tasks in each category (independent problem solving in math, . . . cooperative problem solving in social studies). Not all sampled students need to be assessed on all 12 of the selected tasks. Three samples of students could be selected and one task from each category could be randomly assigned to each cohort. This would maximize the amount of school-level information and limit the assessment burden to individual students.

- Develop and apply scaling and scoring procedures applicable to the Year 3 assessment data.

- Begin identifying, developing, and piloting assessment tasks for other priorities contained in the representational structure or assessment blueprint. A suggestion is to (a) identify basic knowledge and skill assessments for areas other than reading, mathematics, and communication; (b) add independent and cooperative problem solving in another content area; and (c) begin work on an attitudinal outcome area (e.g., self-concept) since the focus so far has been on knowledge of content and skills (including problem solving) and because self-concept seems to be a high priority area.

- Continue to train reliable assessors.

- Continue to provide support mechanisms for inservice teachers.
- Continue to work with teacher trainers.
- Continue to work on equating assessment tasks.

Year 4

- Evaluate the Year 3 implementation process and procedures and modify them as necessary.
- Develop and apply scaling and scoring procedures applicable to the data yielded by the Year 4 assessment.
- Develop additional assessment tasks for the outcomes assessed during Year 3. The pool of tasks must be continually upgraded to allow for valid task sampling.
- By now, the grade 3 cohort from Year 2 can be compared to the grade 5 cohort from Year 4 in the basic skill areas assessed in Year 2.
- Repeat the Year 3 implementation with new student samples (i.e., different third- and fifth-graders).
- Implement the Year 3 plan in two additional grades (e.g., 8 and 12).
- Pilot test and revise the assessment tasks developed in Year 3 (e.g., basic knowledge and skills, independent and group problem solving in a content area; school-related self-concept).
- Continue to train assessors and check for reliability drift.
- Continue to support inservice teachers.
- Continue to work with teacher trainers.
- Continue to equate assessment tasks.

Year 5

- Evaluate the Year 4 implementation process and procedures and modify them as necessary.
- Develop and apply scaling and scoring procedures applicable to the data yielded by the Year 5 assessment.

- Continue developing assessment tasks in the areas assessed in previous years.

- By now, numerous cohorts can be compared across grades in basic skill and problem-solving areas.

- Implement the Year 4 plan plus the problem-solving and self-concept tasks developed during Year 4.

- Continue to train assessors, support inservice teachers, and work with teacher trainers.

- Continue to equate assessment tasks.

Years 6 and 7

- Continue to evaluate previous year's implementations and modify procedures accordingly.

- Continue to develop and apply new scaling and scoring procedures that pertain to the specifics of each year's implementation.

- Continue to revise and develop assessment tasks in areas previously assessed.

- Continue task equating efforts.

- The number of comparable cohorts grows each year.

- Begin identifying and developing assessment tasks in new knowledge and skill areas, including higher order areas such as "integrated knowledge."

- Begin developing assessment tasks in the areas of Group Membership/Civic Responsibility.

Years 8 - 10

- The "continuation" activities described for Years 6 and 7 apply throughout the program's longevity. Likewise, the number of comparable cohorts will continue to grow until reason or need limits it.

- Gradually phase in implementations of the new knowledge and skills assessments and the Group Membership/Civic Responsibility tasks developed, field tested, and piloted during Years 6 and 7.

- Add the identification and development of new assessment tasks as warranted.

The result of this long-range plan will be an ever-expanding and ever-changing core of assessment tasks. These tasks will apply to grades 3, 5, 8, and 12 in areas associated with basic and higher order content knowledge and skills (including integrated knowledge and higher order thinking skills), personal attributes such as attitudes and behaviors, and social responsibility. At a minimum, a pool of assessment tasks that allow for comparisons within and across grade levels (grades 3, 5, 8, and 12) will have been developed for basic skill and knowledge areas, independent and group problem solving in a variety of contexts and content areas, school-related self-concept, and social/civic responsibility.

The long-range plan is ambitious; its development will be highly complex and continual; and it will require extraordinary levels of commitment, support, and resources, including a wealth of expertise. However, we are not suggesting that the somewhat overwhelming nature of the task at hand should impede efforts toward realizing the plan. The results, if the plan is carefully developed and implemented, hold great promise for producing significant, positive changes in learning and instruction in Kentucky and elsewhere.

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FINAL REPORT: July, 1989

Prepared for the Kentucky Council on School Performance Standards

Prepared by The Task Force on Assessment (TFA)

This report is organized into five major sections. The first section describes some ideas that underlay and permeate the remaining sections of the report. For the sake of efficiency, they are addressed once, up-front.

Section Two addresses the underlying purpose of the charge given to the Task Force on Assessment (TFA). It is critical that we all have clear and similar understandings of this purpose because the validity of any assessment system is dependent upon the match between (a) the purpose for doing the assessment and (b) the assessment procedures themselves. Assessments that are appropriate for one purpose may not be appropriate for other, seemingly similar, purposes.

Sections Three, Four, and Five present the heart of the proposed assessment procedures. Specifically, Section Three of the report contains (a) the TFA's recommendations for accomplishing the purpose(s) described in Section Two and (b) the rationales behind those recommendations. Section Four describes the current state of the assessment art as it pertains to the information in Section Three. Section Five presents a "grand plan" for what an ideal assessment system, specifically designed to accomplish Kentucky's current purpose, might look like; a long range planning agenda for realizing this "grand plan" is also suggested.

Underlying Ideas

There are at least four ideas that the Task Force on Assessment (TFA) wants to explicitly convey to the Council. These ideas are assumed by or underlay the discussions contained throughout the report.

Assessment versus Testing

We have assumed that "assessment" is a broader term than "test." While most tests may provide assessments of something (e.g., knowledge), not all assessments are tests. When most people hear the word test, they think of a pencil-and-paper instrument that consists of questions and yields a numerical score. Assessments may incorporate a number of assessment exercises or tasks which, instead of or in addition to "tests," may include such things as behavioral observations, interviews, or work samples. These alternate forms of assessment (i.e., assessment tasks or exercises other than "tests") may yield valuable information; however, that information or data may not be represented by a numerical score. For example, a writing sample or speech may indicate that a student does not present arguments logically. This conclusion may not be represented by a number, but it can be enormously useful in guiding the teaching and learning efforts of teachers and students.

We hope that the foregoing discussion does not lead to the conclusion that the concepts of testing and assessment are "at odds" with one another or that tests are not useful for particular purposes. Rather, our intent is to convey the idea that assessments need not be limited to tests as we commonly know them. Ideally, assessments should be as valid as possible. That is, they should strive to accurately reflect the outcomes of learning. Some outcomes, such as factual knowledge, might be efficiently and accurately assessed using pencil-and-paper, multiple-choice tests. Other outcomes, such as the ability to solve "real life" problems might be more accurately assessed by observing students in a variety of problem situations.

Specificity versus Generality

The TFA wants to provide the Council with information that is specific enough for them to make informed decisions. Yet, we fear that if we are overly prescriptive--for example, to the point of recommending the use of particular tests--much of the freedom of designing a system that assesses broad-based outcomes (e.g., responsibility) or meets the assessment needs of diverse student bodies is lost. The point is, the TFA has struggled to strike a balance between being unhelpfully vague or destructively specific. Hence, insofar as possible we have focused on parameters of best practice rather than on prescriptions regarding specific courses of action.

There is No One Way

A third pertinent idea is that our task is extremely complex and there is not one right or proven way to proceed. No one (i.e., no state) has yet developed the kind of system we envision; we have no models. Fortunately, a number people, states, and organizations have given a great deal of thought and some effort toward developing creative, instructionally useful, alternative forms of assessment. Hopefully, we will learn and borrow from some of these efforts.

Simplicity versus Complexity

The fourth idea we want to convey is related to the third. The complexity of task-at-hand has made it difficult to state our ideas in terms that are relatively simple to understand without being overly simplistic. For the most part, we have aimed for an appropriate balance over an easy one. When simplification bordered on over-simplification and possible misrepresentation of ideas and issues, we tilted the balance away from simplicity and toward the clearest possible presentation of complex ideas.

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